

Investigation on Rangoli patterns

A horizontal line spans the width of the slide, intersecting a grey geometric shape on the right side. The shape is a rectangle with a diagonal cut from the bottom-left corner to the top-right corner, creating a light grey triangular area. The text 'Investigation on Rangoli patterns' is overlaid on this shape, with 'Investigation' and 'patterns' in white and 'on Rangoli' in black.

"Investigation on Rangoli patterns"

Special project

Submitted in partial fulfillment of the requirements of the Masters of Design Degree in Product Design.

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Acknowledgement

I thank Prof. Ravi Poovaiah for guiding through the whole process. His constant guidance, help and encouragement served as an inspiration

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I take this opportunity to thank all my classmates who extended all their supports to me for the project.

content

Abstract

Introduction

 kolam

 Introduction

 Types of kolam

 Cultural influences

 Religious influences

Analysis

Methodology

 Pongal

 case study - Pookolam

 Siku Kolam

Kolam making tool

Comparison

views

Bibliography



Abstract

Investigation of Rangoli patterns

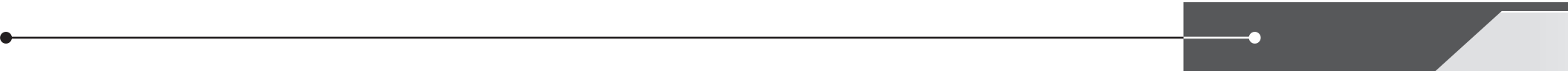
Every region of India have unique ways of expressing their culture through various forms of art, which also reflect their beliefs and rituals. this study includes the basic analysis of one such traditional art form, the floor art of Rangoli.

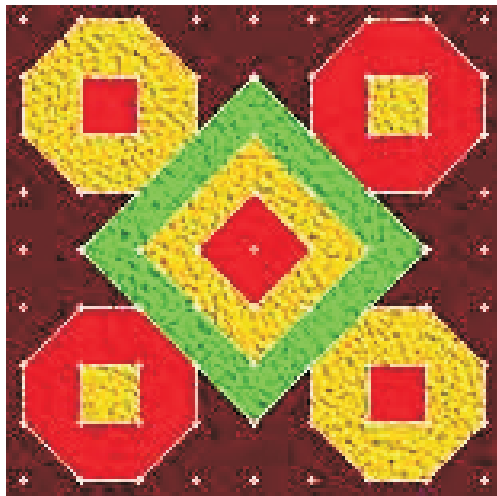
The scope of the project includes the understanding behind the patterns that are created using various methodologies which also have variations with respect to the region .The variety of patterns and form of decorations are dependent on types of function/purpose, occasions, various artifacts and environments. In this particular study one is trying to analyze the visual elements, motifs and their principle of creation which reflect various influences from region to region.

To restrict the domain of the project, the criteria of study have been made limited to mainly those related to region/place, occasions/events and environments/artifacts.

execution of this work includes identification of patterns ,motifs and iconography ,documentation of the different styles of decoration and various methodology ,analysis of the diverse kinds of Rangoli from many regions, representation of decoration created by using various elements of design and making the report and presentation of entire study. It also includes the process of investigation by talking to people and finding out the process of creation of the decoration.

The study is to facilitate creation of a new style of patterns and decoration with respect to the essence of its origin and to represent the basic graphical elements and create various applications for reusing these decorative elements.






Rangoli

Rangoli is one of the most popular art forms in India. It is a form of decoration that uses finely ground white powder and colours, and is used commonly outside homes in India. In Indian cultures, all guests and visitors occupy a very special place, and a rangoli is an expression of this warm hospitality. In particular, the Divali festival is widely celebrated with rangoli, since at this time, people visit each other's homes to exchange greetings and sweets.

Rangoli can be wall art as well as floor art. The term rangoli is derived from words rang (colour) and aavalli ('coloured creepers' or 'row of colours').

The Chola rulers made extensive use of floor paintings. They are known by different names in different parts of the country; Aalpana in Bengal, Aripana in Bihar, Madana in Rajasthan, Rangoli in Gujarat, Karnataka and Maharashtra, Chowkpurana in Uttar Pradesh and Kolam in Kerala and Tamilnadu, Muggu in Andhrapradesh. Some of these, especially many of the North Indian ones like Aalpana more often refer to floor painting with traditional wet color, rather than the powder rangoli more conventional in south India.

The designs are symbolic and common to the entire country, and can include geometrical patterns, with lines, dots, squares, circles, triangles; the swastika, lotus, trident, fish, conch shell, footprints (supposed to be of goddess Lakshmi), creepers, leaves, trees, flowers, animals and anthropomorphic figures.



Like Hindu and Buddhist Mandalas, the reason for using powder or sand as a medium for creating Rangoli (and its resulting fragility) is sometimes thought to be a metaphor for the impermanence of life and maya. Rangoli also has a religious significance, enhancing the beauty of the surroundings and spreading joy and happiness all around.

Originally Rangoli was done in small patterns — 2 feet squares — but now entire floor areas of rooms and hotel foyers are covered in intricately detailed designs. Traditionally, such floor decorations were done only on auspicious occasions or festivals. But today, any occasion is good enough — weddings, birthday parties, opening ceremonies, etc. In the deep South and South West of India and Kerala, flowers are used to create floor art.

Table of symbols

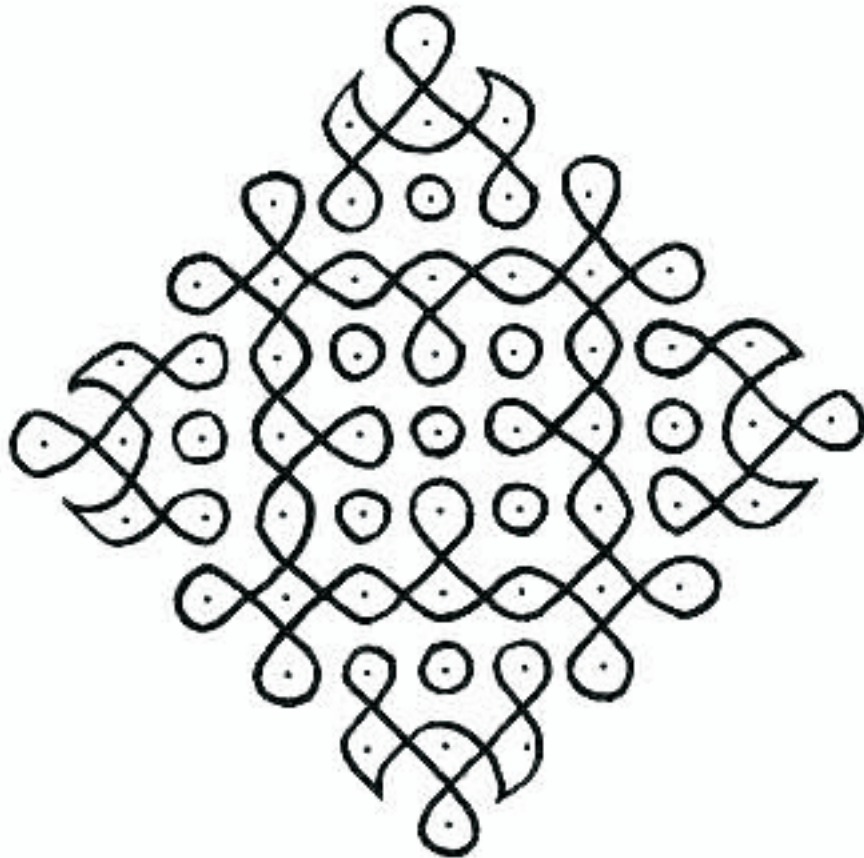
Hindu gods, deities, mythological figures and the associated symbols

God or deity	Associated symbols	Note
Brahma	Lotus, Swan (Hamsa)	Symbol of creation
Vishnu	Lotus, Shesha Naga, Chakra, Conch, Mace (Gada), Color blue	
Shiva	Third eye (bindi), Shiva Ling, Cobra, Crescent, Drum, Tiger skin, Trident, Rudraksha, Vibhuti, Trident (Trishula)	
Lakshmi	Lotus, Owl	Symbol of wealth and prosperity
Parvati	Tiger	Symbol of fertility, Consort of Shiva
Saraswati	Lotus, Peacock, Swan, Veena, Color white	Symbol of learning, art.
Rama	Bow and arrow	Symbol of righteousness, Avatar of Vishnu
Krishna	Cow, Milk, Flute (bansuri), peacock feather, Color bluish-black or black	Avatar of Vishnu
Ganesha	Aum, Modak (a sweet), rat	Symbol of good fortune

source: http://en.wikipedia.org/wiki/Hindu_iconography#Aum



Kolam

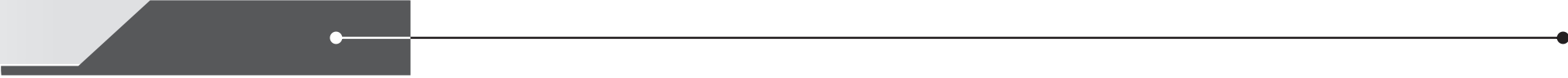


People love to decorate their homes on Diwali by drawing Rangoli in their courtyards, walls, mandirs (place of worship), entrance of rooms and main entrance of their homes

The drawing of Rangoli patterns is often combined with rituals associated with auspicious occasions, such as major festivals and celebrations. The patterns are usually drawn by the women of the household in villages in parts of India; and in some places it is a daily ritual to mop and clean the entrance to the home and then make beautiful drawings in the doorways as a message of welcome.

Kolam is the South Indian style of designing rangoli in which the geometrical figures such as circles, triangles, squares, ovals and rectangles dominate

the holy symbols include mangal kalash, leaves of Ashoka tree, om, swastika, a lighted Deepak (lamp), shree, lotus and other flowers, creepers, trees, rising sun, moon, stars, chakra, fish, birds, elephants, dancing figures, trident, human figures and geometrical figures such as circles, semi-circles, curves, triangles, squares, ovals and rectangles. The footsteps of Goddess Lakshmi entering into the home are designed at the main entrance of the home or near the place of worship, which indicates the entrance of prosperity in the home. Rangolis are created by a combination of different colors. It could be decorated either by colored powders or by colored pastes such as painting colors.



The beauty of the rangoli pattern is enhanced by adding additional decorative elements to it such as the lighted deepaks, colorful flower petals and leaves, colored rice grains, colorful pulses, and colored sand.

Rangoli patterns could be drawn by paste of rice grains, turmeric paste, vermilion powder, chalk and limewater.

Lines are always drawn on a single finger movement (rangolis are always drawn with fingers) and generally the mapping of the rangoli is done with the help of arrays of dots, which are joined to form a pattern, and then the pattern is filled with colours.

Some patterns are pictorial whereas others are based on geometrical patterns. Concepts of symmetry, reflection and tessellation as well as recognition and properties of 2-dimensional shapes are also regularly implemented.

Rangoli, derived from the word "rangavali" has different avatars in different regions. Its "rangoli" in the North, "kolam" in the South and "alpana" in the East. But the essence remains the same throughout, except for the medium that is used to create those colourful motifs and patterns on the floor.



History of Kolam

The colorful Kolam tradition dates back to the Indus Valley Civilization (2500 B.C). In the Mahabharata, the gopis (milkmaids) drew kolams to forget the pain that they experienced when their beloved Krishna is away. At a much later date, Kolam-drawing is listed as one of the 64 forms of art in Vatsyayana's Kamasutra.

It is said that Gautama Buddha was himself an expert in this art.

Significance

The Kolam is much more than just an aesthetic art. It symbolizes happiness and prosperity. Insects and birds feed on the rice flour used for drawing the traditional Kolam at the entrance of houses. Thus, the Kolam represents man's concern for all living creatures. The Kolam and the bright red border or kaavi enclosing it are also believed to prevent evil and undesirable elements from entering the houses

Drawing Pongal Kolam

On the day of Pongal, family members jointly draw the kolam with rice flour that can be plain as well as colored. Parallel straight lines can be drawn using a cylindrical rod (Ulakai) as a guide. A kolam can be a plain one or can be artistically drawn with symbols of cosmic interest. The kolam defines the sacred area where the Pongal is prepared.

Within the perimeters of kolam, typically, firewood is used to cook the rice. The Pongal is set up in the direct view of the Sun (East). Traditionally, the kolam is laid in the front or side of the house, but in cold climes where cooking indoors with firewood is hazardous, the Pongal can be prepared in kitchen and brought to the location where kolam is set up.



Types of kolam

There are several types of Pongal Kolam designs. There are line kolams, where there is the free hand drawing of lines to make a geometrical pattern. Pulli (dots) are arranged in a specific sequence and order & these pullis are joined to make pictorial designs. In the pulli kolam type, there is an another type of forming twisted chains by linking one loop with the next & forming wonderful designs with the basic pattern. This is called *Chuzhi* kolam

a pattern, in which a stroke (Kambi, Sikku in Tamil) runs once around each dot (Pulli), and goes to the beginning point (endless/cycle), as a mostly geometrical figure. The stroke called as Neli from a snaky line. The stroke has Knot (Sikku) structure.

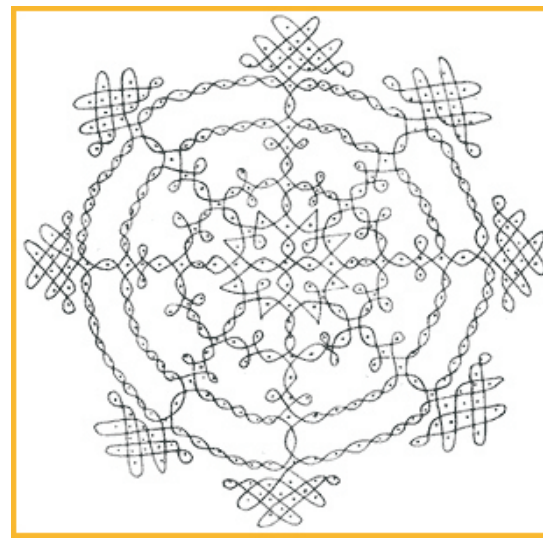
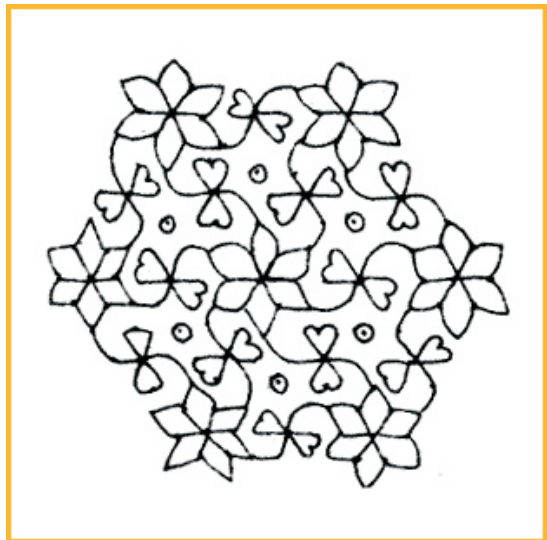
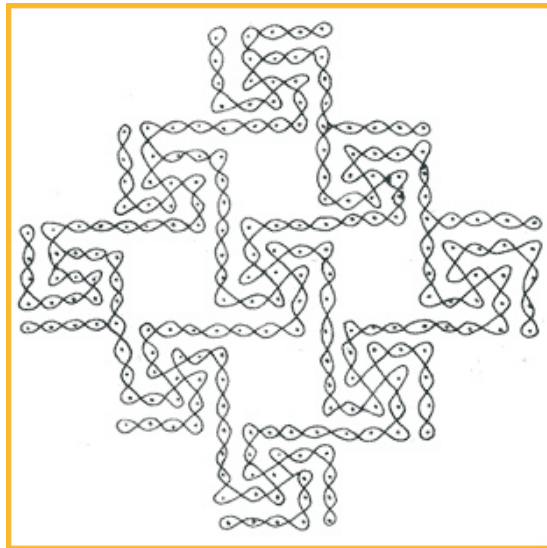
a pattern, in which a stroke runs around each dot not completely, but open.

a pattern, in which strokes(Kodu/Kotto)are connected between the dots.

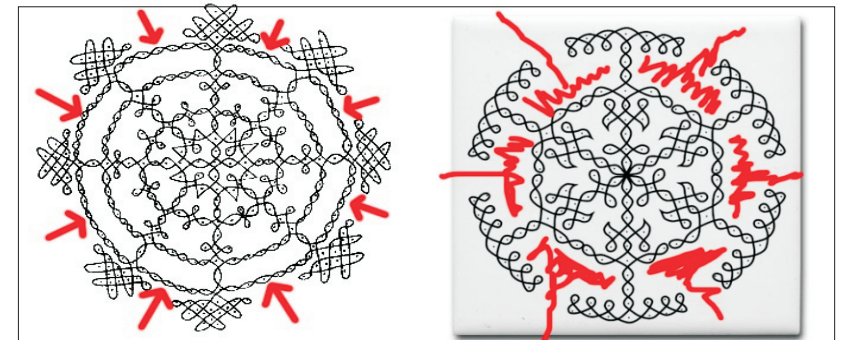
Sometimes it represents kinds of objects, flowers, or animals etc.

a pattern, in which dots are set in a radial arrangement, called Lotus.

a pattern, which is drawn in a free style and mostly colorised.



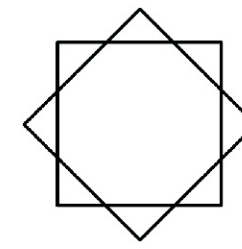
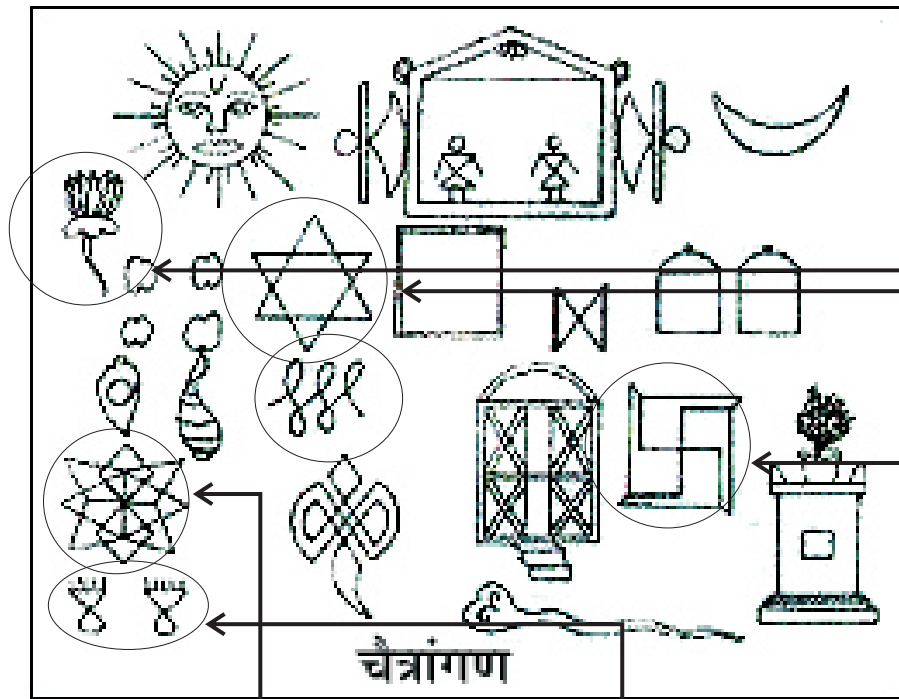
A grid of dots is first created on the ground and deft fingers weave lines and curves of magic through this gridwork to form exquisite designs. These dots are said to symbolize the hurdles that we face on this journey called life. Typical Rangoli kolam designs are single closed winding lines intricately woven around a grid of dots. Early mornings in Tamil Nadu and other southern states will see the threshold being cleaned and adorned with a kolam pattern.



Folklore has evolved to mandate that the lines must be completed so as to symbolically prevent evil spirits from entering the inside of the shapes, and thus are they prevented from entering the inside of the home.



• cultural influences



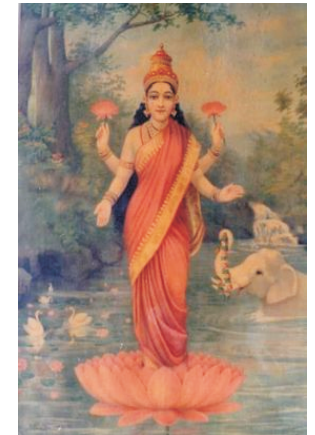
The Star of Lakshmi

The Star of Lakshmi is the star figure (polygon $\{8/2\}$), that is used in Hinduism to symbolize Ashtalakshmi, the eight forms of wealth.

Symbol reference: Eric W. Weisstein

Foot motif indicating the welcoming of goddess Laxmi to a holy place

Lotus indicates the motif for goddess Laxmi and many similar the varieties of abstract forms are used in kolam



goddess Laxmi



A woman draws the symbol of Shakti on the door post



Kolams made for Pongal



Special shrine to the house gods and harvest for pongal.



Ploughs decorated for Pongal.

Cow dung has antiseptic properties and hence provides a literal threshold of protection for the home. It also provides contrast with the white powder.



woman preparing pongal

overflowing pot
the area where pongal is been made is decorated with kolam .which defines the space for pongal.





kolam has various significance for various rituals :

Ritual of priest

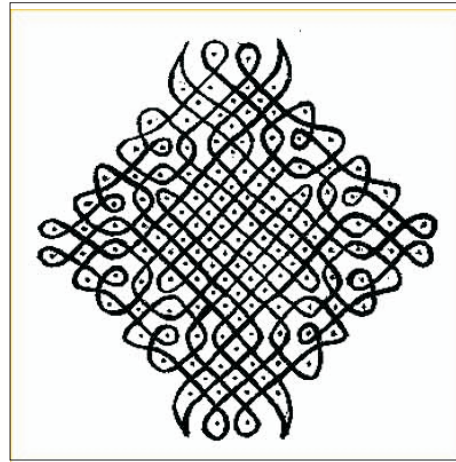
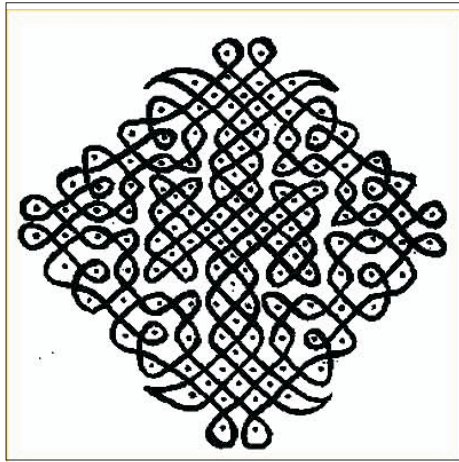
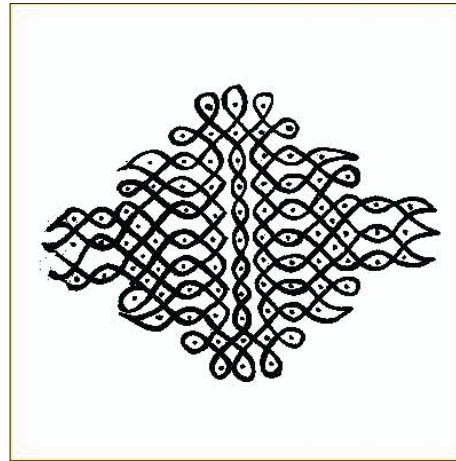
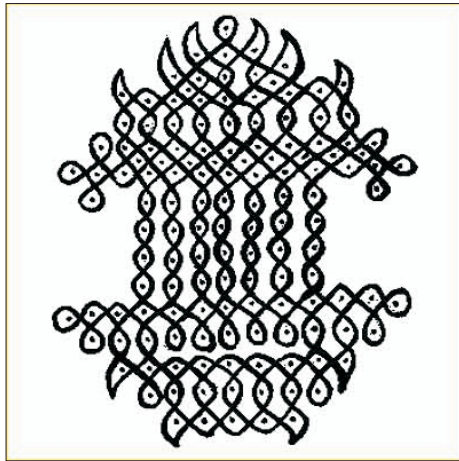
A woman makes kolam around the sacred space during the initiation of a priest.

Traditional Tevar kolam for Pongal. Sengottai.

A woman makes kolam around the sacred space.

A woman decorates the pit of a sacred fire.





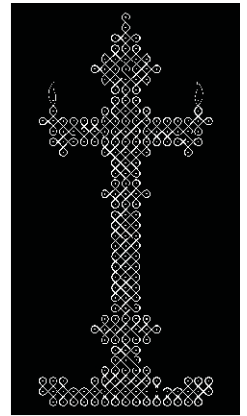
in various forms of siku kolam these design are derived from its religious significance.

elements that are used to create the kolam are derived from the holy diya : Vilakku. and the pointed element that u see shown in image is a derivation from an abstraction of a flame

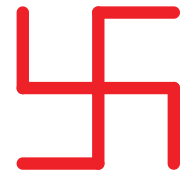
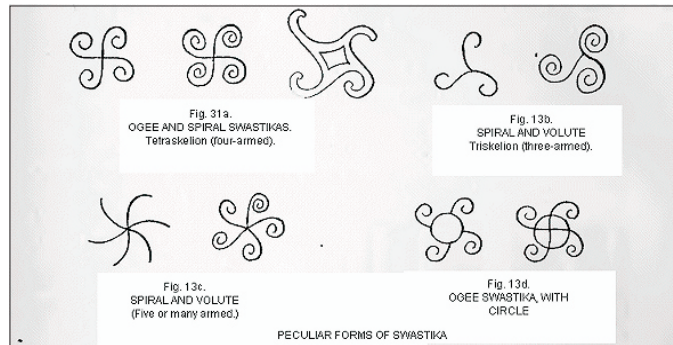
These kolams are done in front of the temple in the courtyard or next to the *garbh gruha* ..

the kolams done in the temples are comparatively bigger than the ones which are done in homes or in the courtyards ..

the forms which are derived from these kolams are mainly abstractions of various holy elements that u find in context to the temple : a chariot or a flower or a diya *vilakku* ..or its just a geometrical form like square, circle or multi angular geometries .



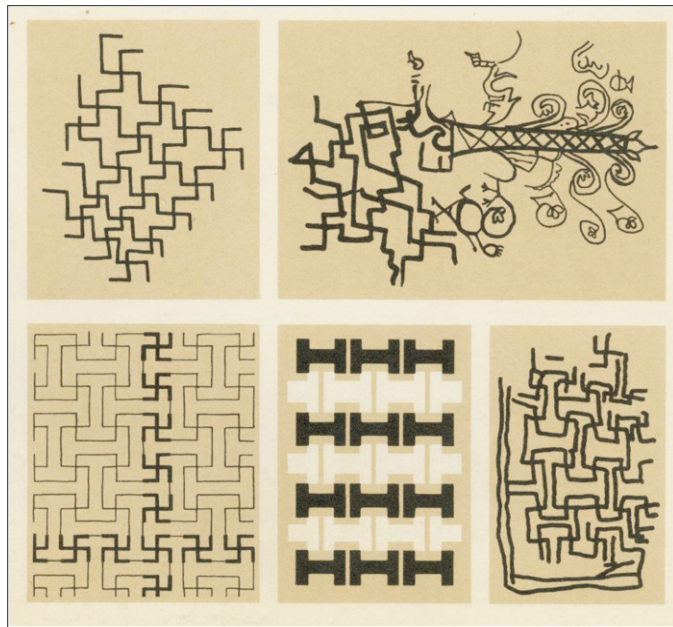
Vilakku.



Swastika

Swastika is a symbol connoting general auspiciousness. It may represent purity of soul, truth, and stability or, alternatively, Surya, the sun.[1] Its rotation in four directions has been used to represent many ideas, but primarily describes the four directions, the four Vedas and their harmonious whole. Its use in Hinduism dates back to ancient times. Nazism used a tilted version of this symbol[1] under the name Hakenkreuz, and associated it with the notion of "purity of race".

few religious icons are used as auspicious elements in kolam and are used repetitively in various way as shown in given image.





Mediums of color are used for a kolam

When it comes to applying color to kolams, there are only a couple of ways, which meet all the requirements as far as beautification is concerned. You can color a kolam by using the color of nature, such as flowers, by removing the petals of the flowers and using it to fill inside the outlines of the kolam. Kolams colored with petals of roses, jasmines and marigolds look strikingly beautiful, and the whole area smells so fragrant!

Some colors like yellow or brown could be easily used from your kitchen or pantry. Turmeric is used for yellow and ground coffee beans could be used for brown. Some color savvy ladies in India like to save used-up coffee grounds and tea leaves for the purpose for coloring kolams. Red , orange and maroon color powders are collected by grinding up some red gravel or bricks. There are commercially made colored powder or dyes available in the market. You can mix those dyes with the rice flour or the sandstone powder to get the desired hues you want and then color the kolams.

Submitted by nk at 2005-07-18 16:01

Traditionally, rice flour/ wheat flour, kumkum and haldi are used at the place of worship. They are considered auspicious.



Agal rangoli



Bharama Mudi rangoli



kumba rangoli



surya chakra rangoli

Margali Masam

Margali is a Tamil month and it comes after Karthikai and before Thai which is the harvest season.

All the seasons are very dull in Chennai, the brightness starts right from the paratasi Masam which is auspicious for lord venkateswara, then starts the karthigai auspicious for lord ayyapa, after which is the Margali season where almost each and every Hindu family becomes active, singing bajans along the streets in the cool morning climate, temple opens up early in the morning, ladies busy putting Rangoli in front of their houses, .adjacent are some of the pictures taken during early morning in the Margali season.

Rangoli kolams are usually drawn with coarsely ground rice flour and is done with swift deft strokes. As legend goes, the rice flour is also food for ants. Red brick powder and colored Rangoli powder are used to enhance the kolams. During the Tamil month of Marghazhi and on special occasions, the Rangoli kolams take on a festive note too. Kolams during the festival of Pongal are generously dotted with images of the overflowing pongal pot signifying prosperity and plenty. Some of the special Rangoli kolams are Navagraha kolam and Iswarya kolam.



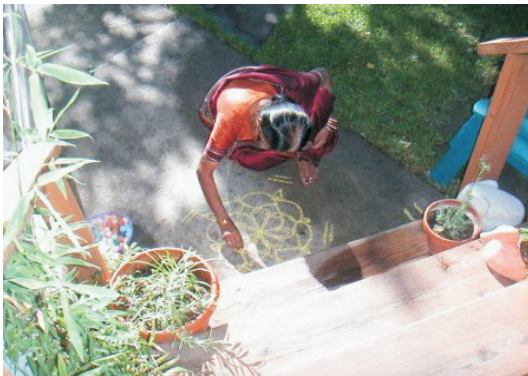
These kolam are at the domestic scale ...done in front of the entry or in open courtyard .

These kolams are done with a chalk or a rice powder ,in respect to worship the god on particular day..and so for entire 7 days they put 7 kinds of different kolams .using various shades of colors..colors are chosen from the colors of that particular planet of that day .

all kolams have their own icons of various planets and so that's how they make it more unique for particular day

This kolam is drawn on Mondays to honor Soma (the Moon).

The moon adorns Siva's hair and is said to bring feminine grace and beauty as well as mental clarity.



This kolam is drawn on Tuesdays to honor the navagraha (planet) Chavai(Mars).

It frees one from debts, poverty, illness and breaks the bonds of attachment.



This kolam is drawn on Wednesday to honor the navagraha (planet) Budhan(Mercury).

It promotes intelligence and prosperity and brings the blessings of harmonious communication.



This kolam is drawn on Thursdays to honor the navagraha (planet) Guru (Jupiter). It creates beneficial energies to bring wisdom, intelligence and longevity to all who see it.



This kolam is drawn on Fridays for the navagraha (planet) Sukran (Venus). It harmonizes the energies to bring wealth, prosperity and abundance in all aspects of one's life.



This kolam is drawn on Saturdays to honor the navagraha (planet) Shani (Saturn). It mitigates the hardships that this planet can create such as delays, sorrow, restrictions and adversity.

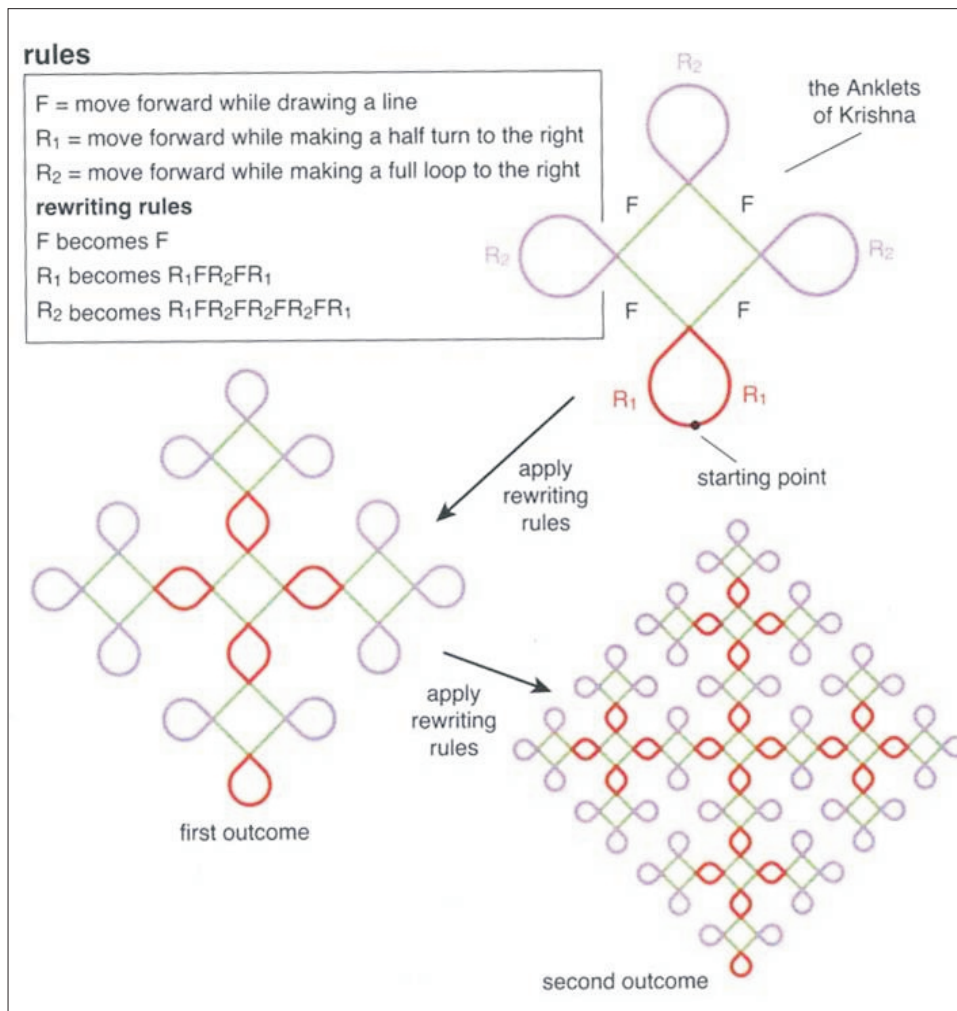


This kolam is drawn on Sundays to honor Surya (The Sun). It attunes the energies for the entire week and brings general well-being.

"various postures in which the benefits for the artist to bend down each morning - it is said to help her digestive system, reproductive organs and to help overall stretching of the body."



Analysis

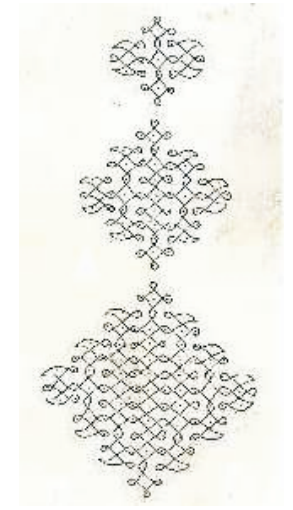
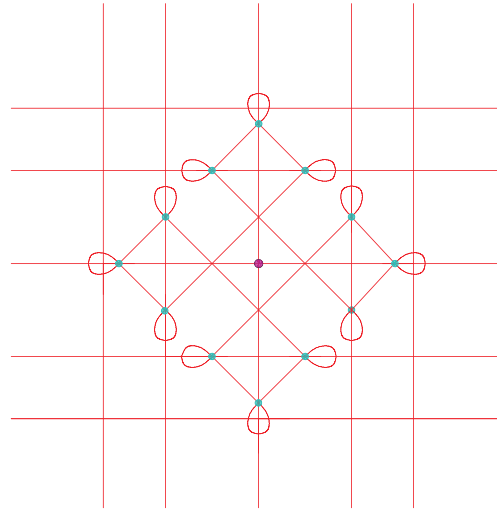
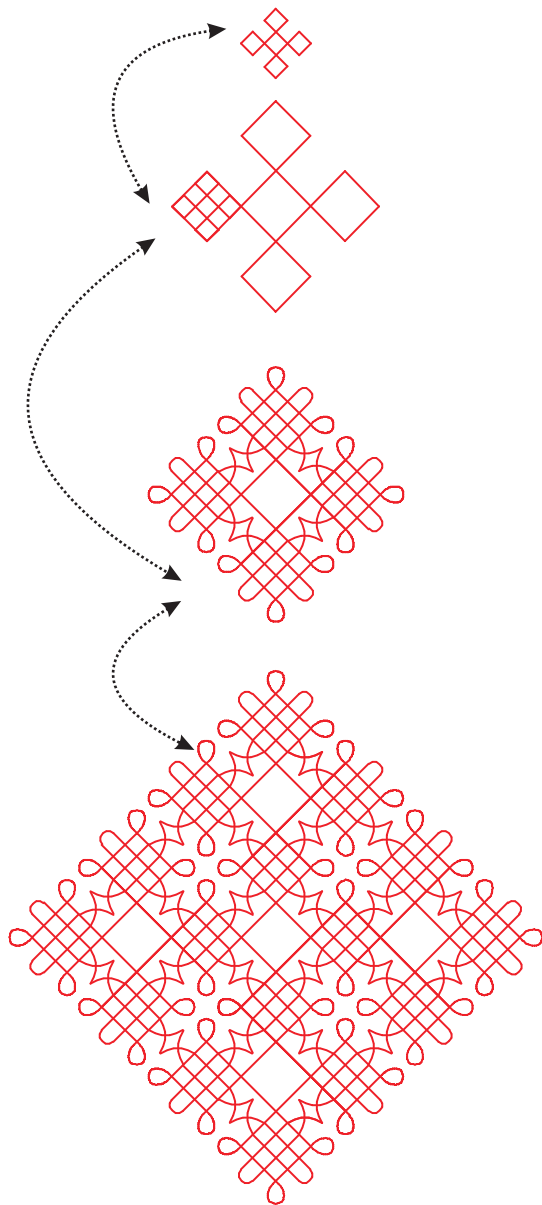


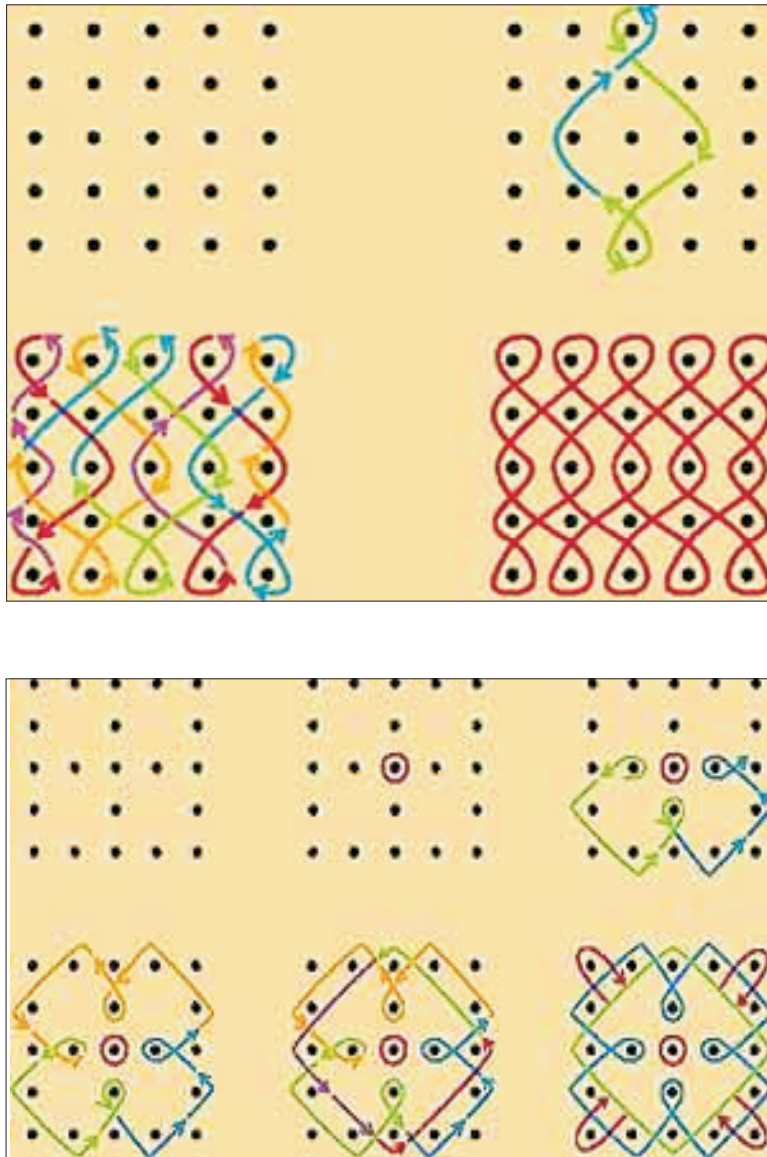
One of the simplest of Siromoney's grammars consists of "actions" such as "keep going," "sharp left turn", "sharp right turn", "right U-turn", "left U-turn" and so on. By the repeated application of about seven actions in a proper sequence, most kolams, but not all, can be produced

Dr. Rani Siromoney

the loops that are created are done on sindhu pulli.
a diagonally arranged pullis

given examples shows one of the most traditional and common form which is used as a module and repetitively used for further development .where each stage of development follows the same rules .





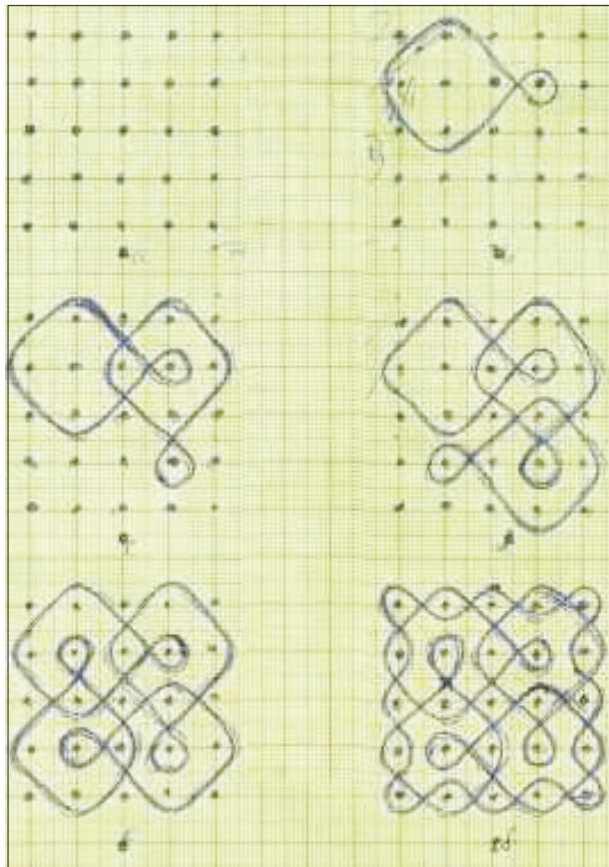
Mathematical properties

consider a certain class of kolam patterns with dots. We discuss only those designs in which there is one dot and only one dot in every space bounded by kolam lines. Each design will have dots, crossings of lines, and edges which connect the crossings. Let us take those designs in which there are exactly four edges at each crossing. A large number of common kolam designs belong to this class⁷ and such designs have some elegant mathematical properties.

The number of dots (pullis) is always equal to the number of crossings plus one. If the number of pullis is five then the number of crossings is always four even though more than one kind of kolam can be drawn for a given number of pullis.⁸

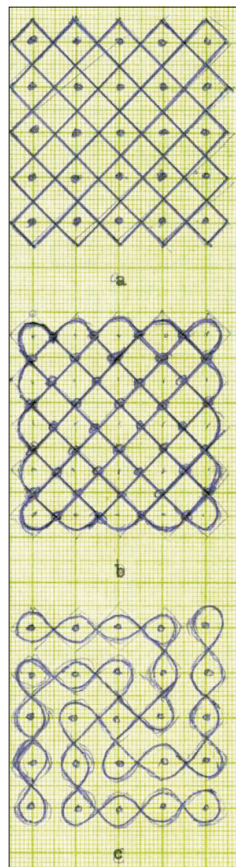
The number of edges is always an even number. In fact it is equal to twice the number of crossings. If the number of crossings is four, then the number of edges is eight.

Connecting the number of pullis, crossings and edges there is an interesting result. The number of pullis plus the number of crossings is equal to the number of edges plus one. For example if there are five pullis in a kolam, the number of crossings is four and the sum of these two is nine. Furthermore the number of edges is twice the number of crossings and it is eight. Eight plus one gives the same number nine.



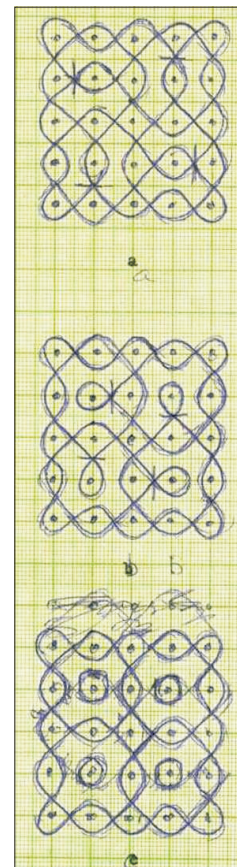
Kambi kolam of Type I

- a) Grid imposed on a 5 x 5 matrix of pulli's.
- b) The corresponding Euler graph.
- c) A kolam drawn on the grid rounding off corners.



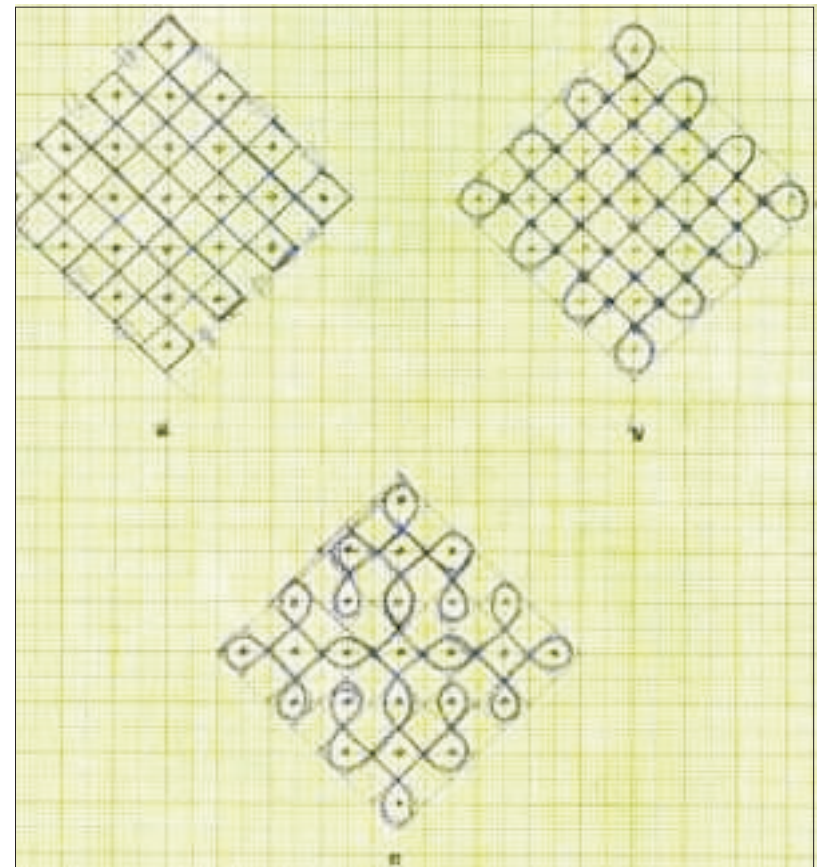
Derivation of a multi-kambi kolam from a single kambi-kolam

- a) A single kambi kolam
- b) A 5-kambi kolam using 4 cut points
- c) A 9-kambi kolam using 4 more cut points



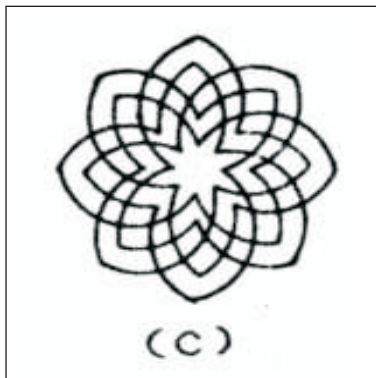
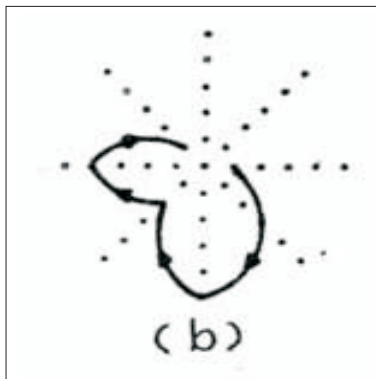
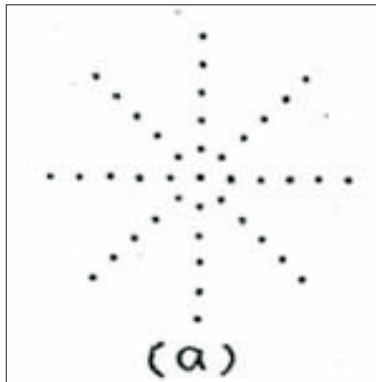
Kambi kolam of Type II

- a) Grid imposed on pulli pattern.
- b) An Euler graph.
- c) A kolam drawn on the grid rounding off corners.



Anotation for representing segments of a design

- a) The segments are independent of direction
- b) Patterns not expressible by the three R's, L's and F



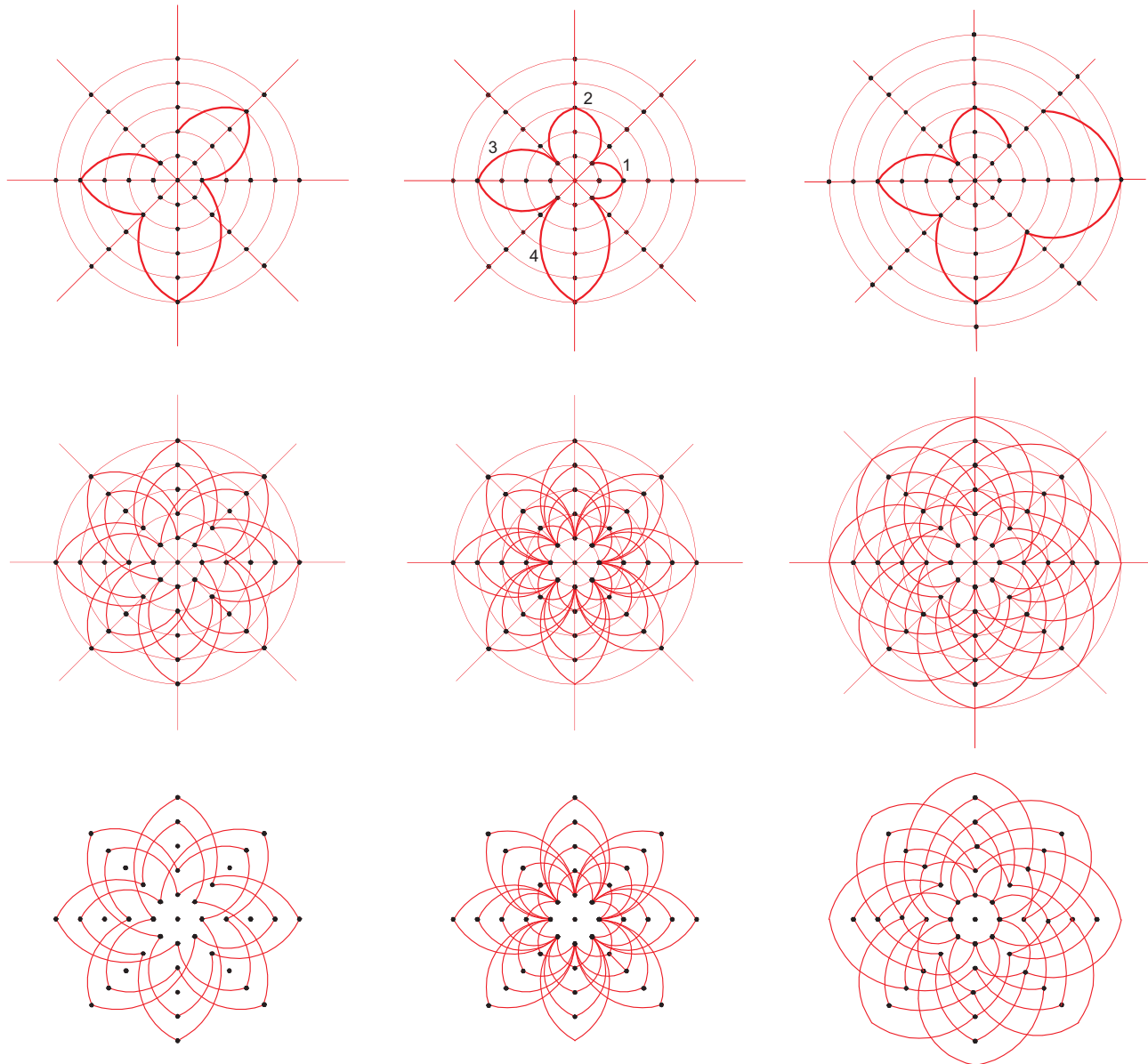
II. Hridaya Kamalam Kolam

Hridaya Kamalam kolam in its most common form has eight converging arms or axes and each arm is of 'length' five units. KPs memorize this design by marking the five pullis on the eight converging arms in radial form. In practice, the directions of the arms are memorized and only pullis are marked along the directions. Then they memorize a sequence of numbers which they apply repeatedly to join the pullis. This sequence of numbers is the rule that is used to form the petals of the Hridaya Kamalam kolam (Figure 1).

Figure 1.

Skeleton of the kolam with eight arms of length five each,
The kolam is drawn following the tracing sequence $\langle 1,3,5,2,4 \rangle$.
A completed Hridaya Kamalam design.

Let the pullis be marked as 1,2,3,4 and 5 on each of the arms from the center 0. The sequence of pullis to be joined is given by $\langle 1,3,5,2,4 \rangle$. This sequence of pullis are joined from one arm to the next, starting from any one of the arms arbitrarily. The same sequence is repeated until the design is completed, that is, no pullis left out in any arm. This pattern requires only one kambi. The points can be joined either in the clock-wise or counter clock-wise direction. The shape of the kolam drawn in the clock-wise direction will be the mirror image of the kolam drawn in the counter clock-wise direction.



1	2	3	4	5
2	3	4	5	1
3	4	5	1	2
4	5	1	2	3
5	1	2	3	4

one of the most traditional poo kolam and very common but difficult for a person who is not used to it .

its continuous line which follows pullis in certain order as showed in the design .

and the order keeps shifting from one point to other and ends at the starting point .so one can not find out the starting or ending point of this kolam .

It has been mathematically explained in the diagram how it follows the pulli which is arranged in specific order .

number of circles and also number of pullis will be on one line .Then the order for the line to follow the pullis will be the number that comes in diagonal order as showed in diagram .

Then u keep repeating that order till u touch the first starting point as explained previously .

Pongal is to Tamils what Durga Puja is to Bengal, Baisakhi to Punjab, Bihu to Assam, Ugadi to Andhra, Makar Sankranti to Karnataka and other States and Onam to Kerala.

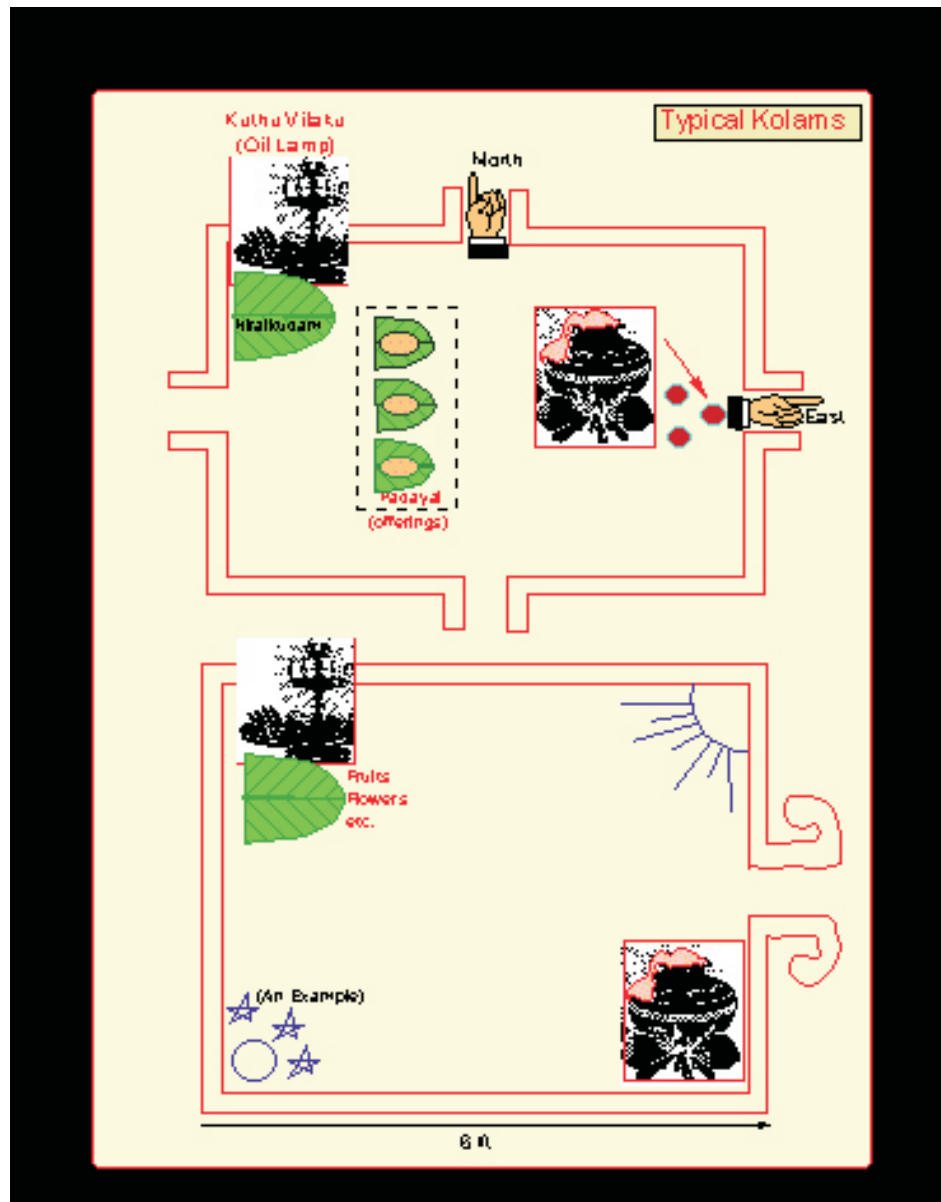
Known as the bhogi pandigai, the first day is an ode to Lord Indra, the bestower of the much-needed rain. Because of his penchant for worldly pleasures, Lord Indra has been nicknamed bhogi, or one who enjoys the good things of life. Indeed a description of this day is incomplete without the intriguing and delightfully human mythological legend accompanying it. According to the story, an irate Lord Krishna (the blue god and an incarnation of Vishnu, the Preserver) directed the earthlings to worship Narayan (another incarnation of Vishnu) instead of Indra, for the latter lead a decadent life. The insulted and humiliated Indra gave vent to his fury by lashing the earth with torrential rain. But Indra's prowess proved to be unequal to that of Lord Krishna for the latter nonchalantly picked up the mighty Govardhan Mountain on his little finger to protect the people from the deluge. After a heartfelt plea for pardon, a deeply repentant Indra was finally reinstated as a god worthy of reverence.

The celebration of makar sankranti in other parts of India coincides with the second day of Pongal, which is also the first day of the new month of thai or magh (10th month of the lunar calendar). Each Tamil home has enchanting green chains made of mango leaves decorating doorways and pillars. Banana and sugarcane plants along with coconut fronds are strategically placed at the gateways, forming a leafy archway. Strings of marigold add a dash of colour enhancing the freshness of the lush foliage. Women, young and old, decorate the floors with kolam (patterns made by coloured powders). Countless masterpieces are created in the form of kolams, and the craftsmanship would probably put even the most accomplished artist to shame.

Preparations for this festival start early and the first thing that is always found in Hindu homes before the start of Pongal is the 'kolam'. This is a form of decoration for the Hindus' homes. This decorative pattern is made with rice flour & is usually drawn on the floor outside the door. The kolams serve as a symbol of welcoming guests to the entrance of the house. At the center of the Kolam is a lump of cow-dung, which holds a five-petaled pumpkin flower-a symbol of fertility and an offering of love to the presiding deity.

The first day is celebrated as the Bhogi Pongal and is usually meant for domestic activities and of being together with the family members. This first day is celebrated in honor of Lord Indra, the supreme ruler of clouds that give rains. The second day is known as 'Pongal' the most important day of the entire festival, where prayers are offered to the Sun. On this day, the Sun is given great importance and hence the day is called Surya Pongal.

The third day is known as Mattu Pongal, the day of Pongal for cows. The cattle are washed, their horns are painted and covered with shining metal caps. Kanu Pongal, which falls on the same day as Maatu Pongal, is celebrated by sisters for the welfare of their brothers. This festival is reminiscent of Raksha Bandhan and Bhai Dooj of North India.



Thai Pongal

This is a harvest festival - the Tamil equivalent of Thanksgiving. It is held to honor the Sun, for a bountiful harvest. Families gather to rejoice and share their joy and their harvests with others. The Sun is offered a "Pongal" of rice and milk.

Rice flour (plain and coloured) is used to draw the kolam. Parallel straight lines can be drawn using a cylindrical rod (Ulakai) as a guide. A kolam can be a plain one or can be artistically drawn with symbols of cosmic interest. The kolam defines the sacred area where the pongal is prepared.

Within the perimeters of kolam, typically, firewood is used to cook the rice. The Pongal is set up in the direct view of the Sun (East). Traditionally, the kolam is laid in the front or side of the house, but in cold climes where cooking indoors with firewood is hazardous, the pongal can be prepared in kitchen and brought to the location where kolam is set up (which could be indoors, like your Sun-room!).



Pongal kolam



Abstract
creepers

Abstract
flower



Abstract leaves

Abstract buds



bordered with blood-red "kaavi" (red brick paste)

In the region of south it mostly comes with eight corners, depicting the eight dishas (direction).

this particular kolam is known as poo kolam.

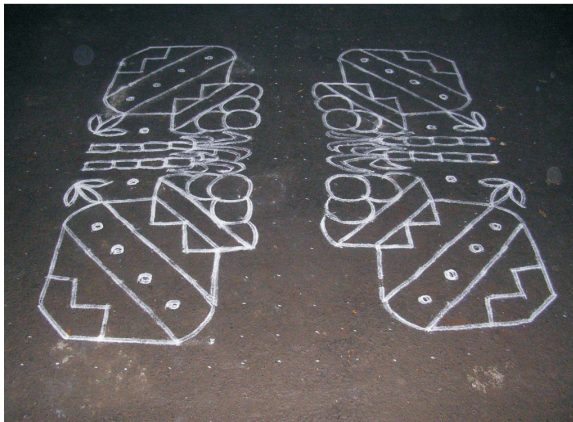
poo means flower in Tamil.

This particular kolam is crated only with the references of eight lines and few layers of circles .then design drawn on the floor with the help of wet chalk stick that it gives visible contrast.

Then final touch is given with the help of rice flour with double lines .

This kolam is a domestic desgin example which is mainly done indoor where size varies making of kolam starts from the center and it grows further .elements that are taken are mainly the abstract forms of flower, buds ,leaves and creepers .

After the kolam is done few elements are enhanced with the red clay paste which adds beauty in whole kolam



Themes in kolams

The entrance decoration is a gesture of welcome. It is a symbol of inviting goddess Mahalakshmi to home everyday.

Just like any other art forms, kolams have many themes which keep changing according to the seasons and occasions. A flower with leaves and vines running around it would conform to the natural theme, while fluttering butterflies would belong to the insects theme. There are nautical kolams, and charriot kolams for the different religious festivals or holidays like Diwali, Pongal or Sankranti, Pookolam for Onam, and Bells and bows with Santa for Christmas. There are kolams for every day of the week. There are kolams drawn with figures of the different deities/gods and goddesses.

Submitted by nk at 2005-07-18 16:03

Pongal designs with sugarcane and overflowing pots and complex geometric patterns



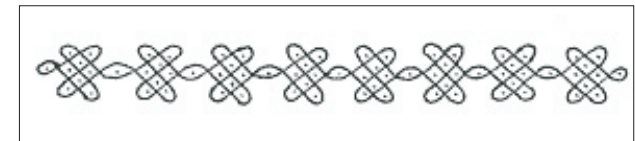
In this particular kolam the elements that are taken are derived from elements which are mainly seen during harvesting. And that is how they create specific kolam for specific occasion.

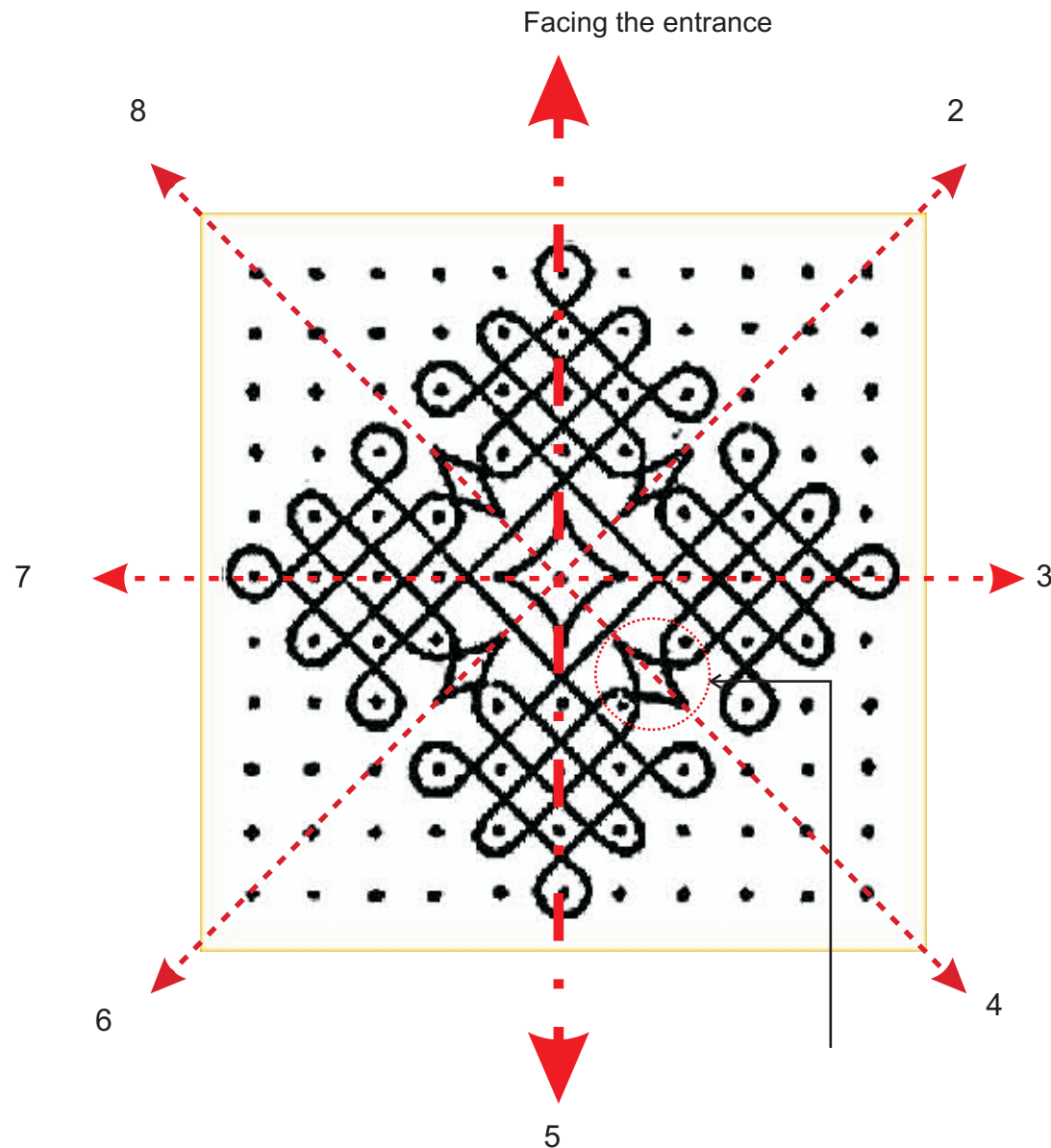
elements like overflowing pot, sugarcane and wheat.

This kolam is specific to pongal and its done in front of the entrance.



It used to be a matter of pride to be able to draw large complicated patterns without lifting the hand off the floor (or unbending to stand up). The month of "Margazhi" was eagerly awaited by young women, who would then showcase their skills by covering the entire width of the road with one big kolam. It was indeed a test of mastery, as one cannot repeat a pattern for 30 days.



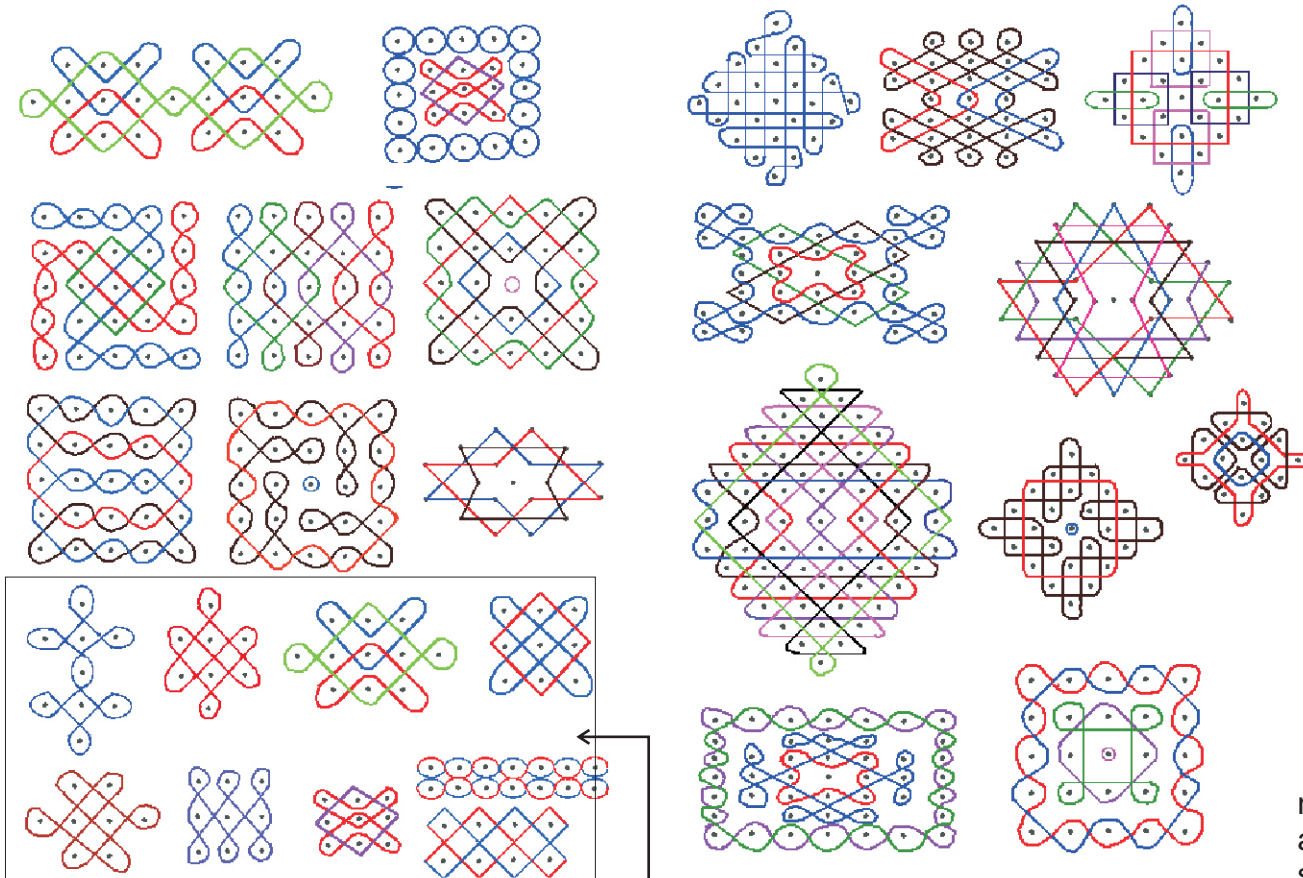


there are few design principles which are found in almost all kolam designs

geometry : the basic geometry that is followed here is a combination of different sizes of squares

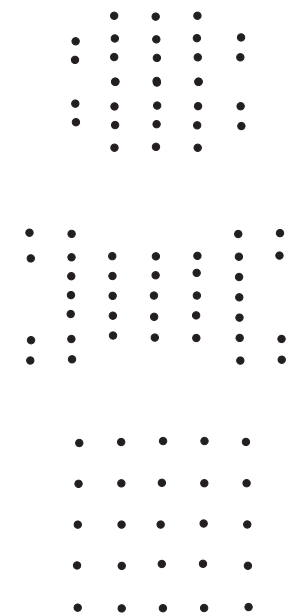
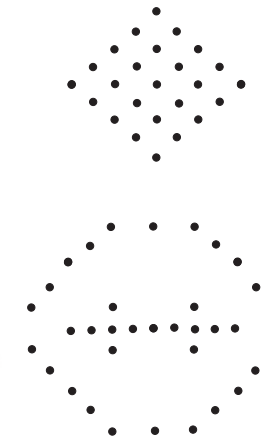
order .the dots and the lines that makes geometry are arranged in a specific order

growth
hierarchy
overlapping
intersection
repetition
multiplication
proportion
centrality
symmetry



Sandha pulli

Neer pulli

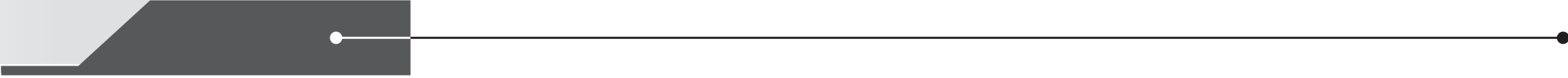


neer pulli is a background which is made of dots arranged in parallel line
sandhu pulli is a background which is made of dots arranged in between two dots

The knots are used as a module in kolam and repeated to increase the size of the kolam as per needed..



• kolam making tool



During the research done by me for the project, I've come to realise that the knowledge and aptitude of designing and making a kolum is not possessed by many. even within the families where kolum plays a prominent part in celebrations, traditionally it is mostly the female members who indulge in creating elaborate kolums and hence the art is passed on to the successive generations by the same. the final design is quite ornate, but nevertheless is constructed mostly through the repetitions and placement of relatively simpler forms and shapes.

one is trying to understand basic few forms which are traditionally evolved which are used to make kolam, andi've tried to come up with the tool which helps making kolam, even kinds of it.

The tool has the choice of making three different kinds of kolams

1.siku kolam

2. poo kolam

and customized ones where it can be a mixture of both

there is a choice of selecting a canvas too where you can select the background as yo u want .Either it's made by neer pulli or sandhu pulli.

one can drag the forms from given box to the canvas and make kolam and subsequently print the designs.

one of the benefits of this tool is to undo the design as where in real kolam making one can not do the same .

Kolam :

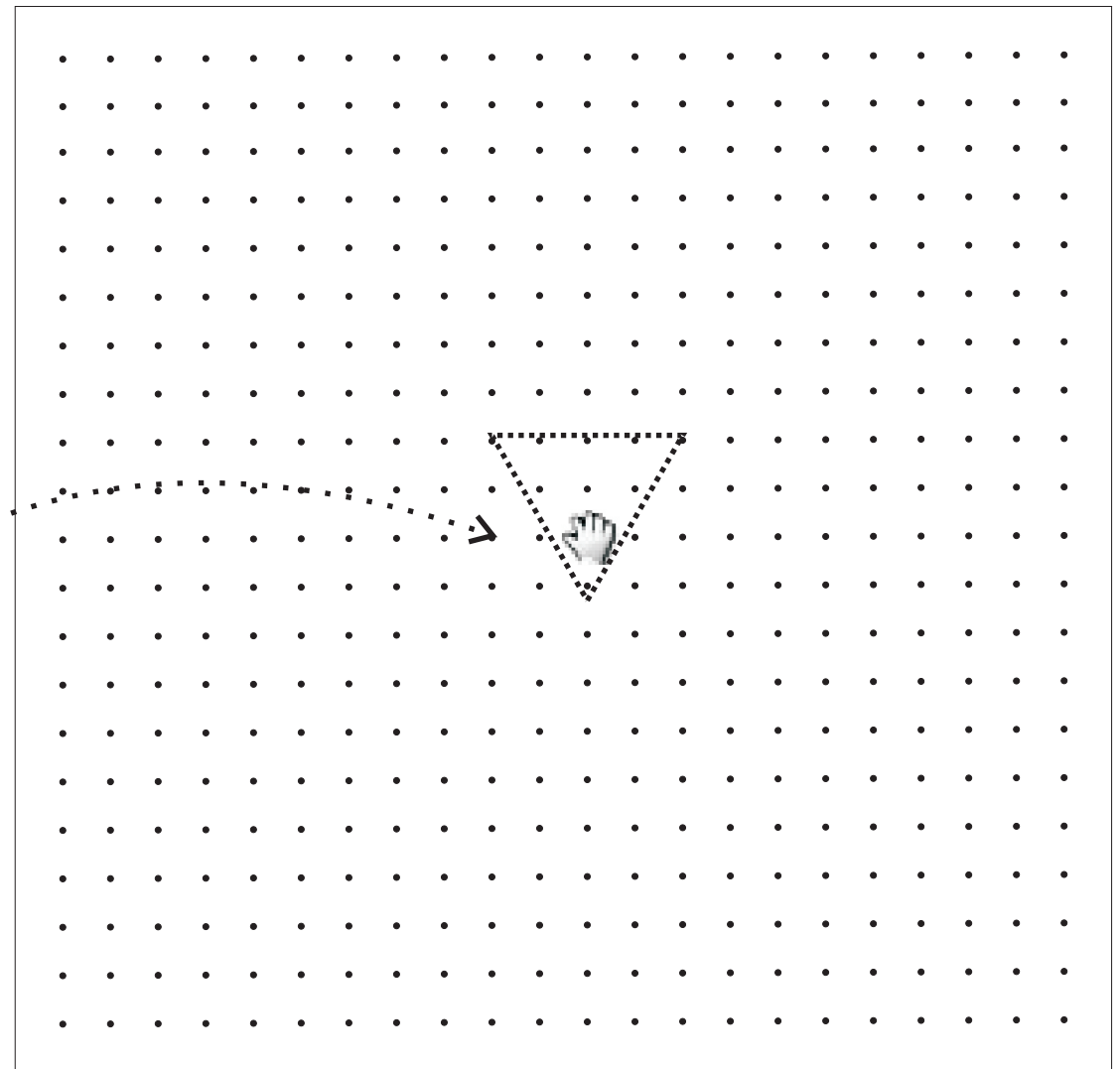
Title

Header

Footer

Background

 Table :
 Raw :

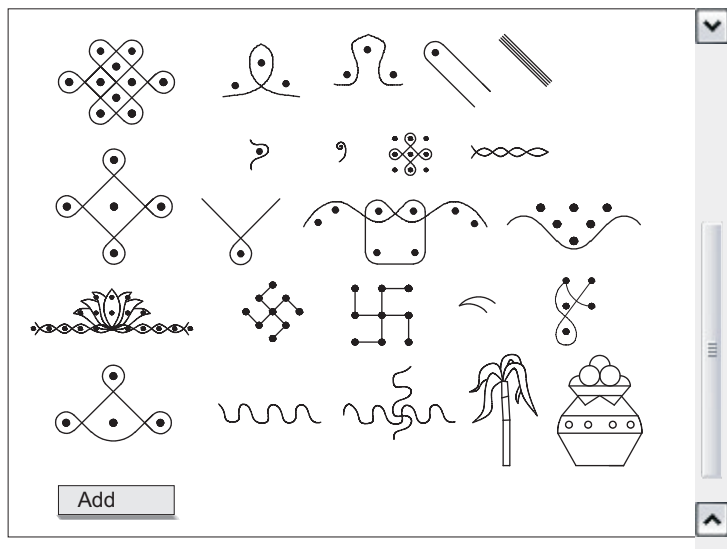


Clear canvas

Print

Kolam :

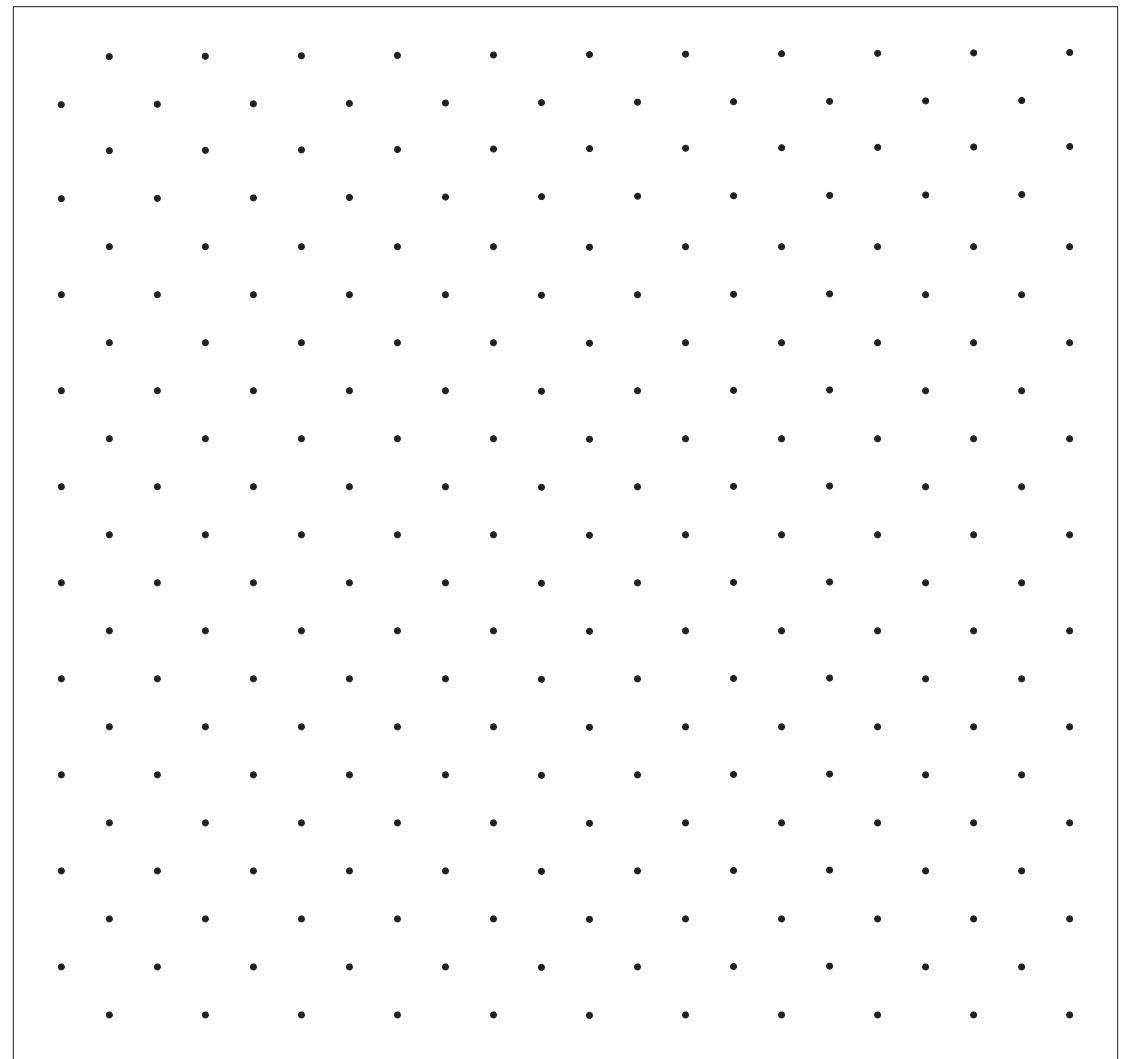
Footer



Add

Background

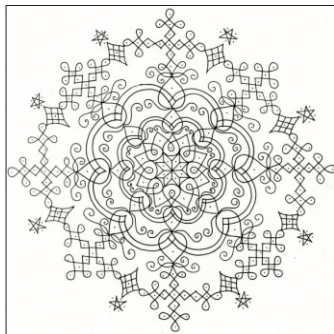
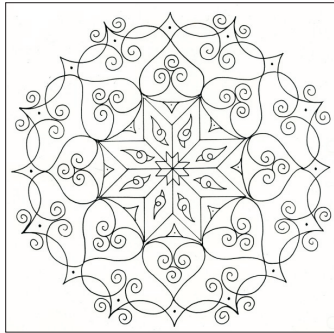
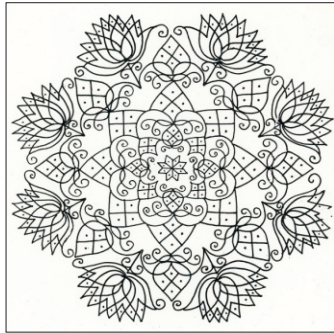
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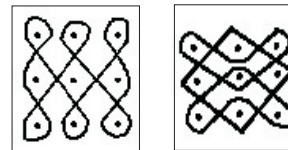
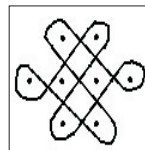
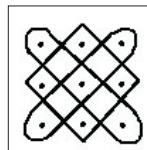
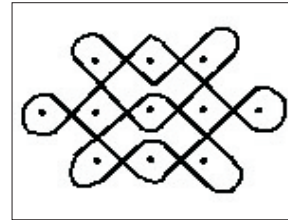
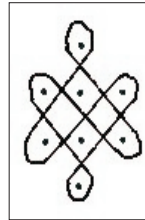
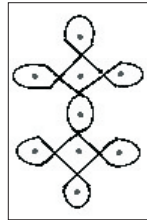
Clear canvas

Print

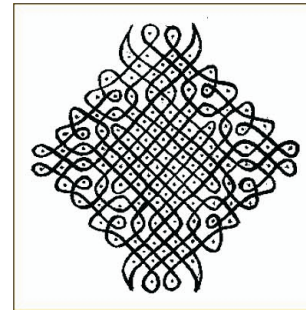
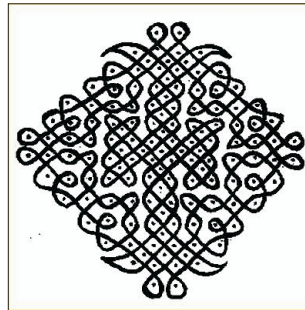
poo kolam



siku kolam



Siku kolam



there are various difference between poo kolams and siku kolams
poo kolams are centrally developed kolam

its like an abstract flower and siku kolam is sometimes made of one continuous line or a loop , where its difficult to find out from where it started and where it ends.

poo kolams are almost found in form of a circle and siku kolams are found in forms of squares.

poo kolams are done by joining the dots where poo kolams are done around the dots and the distance between the line and the dots remain constant throughout the kolam

poo kolams are made using various elements related to flower and nature, while siku kolam is being made using various elements related to temple like *Vilakku* ,flame of the *Diya* ,and in form of chariot .

If there is one art form that binds women, both urban and rural, together throughout the country, it is the kolam (□□□□□).

It is not just about designs, patterns and colours. It embodies spirituality and traditional kolam-s are based on mathematics.

- "Dotted splendour" on The Hindu dated 19-2-01 by Shuba Subramaniam

The kolam (□□□□□) is much more than just an aesthetic art. It symbolizes happiness and prosperity.

It is said that each morning, Lakshmi, the Goddess of Wealth, enters and blesses the houses adorned with kolam-s at the entrance. Hence, the kolam itself is called 'Lakshmi Kadaksham' (□□□□□□ □□□□□□□) Traditionally, the padi kolam (□□□□□ □□□□□) of Tamil Nadu.

- "Kolam" on The Hindu dated 7-1-03 by S. Suresh

A tradition of figure-drawing in southern India expresses mathematical ideas and has attracted the attention of computer science.

In the last few decades, kolam (□□□□□) figures have attracted the attention of computer scientists interested in describing images with picture languages

- "The kolam tradition" by Marcia Ascher in 'American Scientist'

(<http://www.sigmaxi.org/amsoi/articles/ascher.html>)

<http://www.ikolam.com/node/430>

[:www.mathcurve.com/.../sierpinski.html](http://www.mathcurve.com/.../sierpinski.html)

www.cbmphoto.co.uk

<http://beta.zoomr.com/photos/visithra/73048>

<http://www.ikolam.com/greetings/271>

<http://www.ikolam.com/greetings/572>

<http://www.geocities.com/athens/acropolis/1863/draw.html#top>

<http://www.geocities.com/athens/acropolis/1863/gen.html>

Pahari folk art by O.C.Handa (TARAPOREVALA SONS & CO.PVT LTD)

A 745.4

D`AR

designing with natural forms

-Natalie d'Arbeloff

School of Architecture ,CEPT, Ahmedabad

