

Algorithms

Informal definition:

An algorithm is a specification of a sequence of instructions to be carried out by a processor.

Examples:

- Musical score
- Recipe
- Assembly instructions
- Origami
- Dialing telephone
- Setting time on watch
- Computer Program
- ETC

あきらめないで

♩=70

作詞・作曲: Blue Sky

Intro.

Am G/A Am G/A Am G/A Am

Vocal

Guitar

A

Am G/A Am G/A Am G/A

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Indian Chickpeas

From: demers@ere.umontreal.ca (Demers Serge)

Date: Sun, 12 Sep 93 14:20:01 -0400

Here is one of our favorite “vegetarian dish”.

We always include it to our menu for an indian dinner.

250 gr of chickpeas (1 cup)
2 Tbsp vegetable oil
1 onion chopped
2 cm cinnamon stick
4 cloves
2 garlic cloves, squashed
2 cm fresh ginger, chopped
1 green chili pepper, finely chopped
2 tsp ground coriander
3/4 cup of chopped tomatoes (from a can)
1 tsp garam massala
1 Tbsp cilantro, chopped

Soak chickpeas overnight, rinse, cook in water until tender. Drain,
KEEP THE COOKING LIQUID!

In a frying pan heat the oil, fry onion until golden. Add cinnamon
and cloves, cook a few seconds. Add garlic, ginger, chili pepper,
ground coriander and cook 5 minutes, stirring.
Add tomatoes, with the juice and cook until all liquid
has evaporated.

Add the chickpeas to the pan, mix well, cook 5 minutes.
Pour the cooking liquid of the chickpeas and simmer for 25 minutes,
until all the liquid is gone.

Sprinkle with the garam massala and cilantro.

Can be served hot or cold.

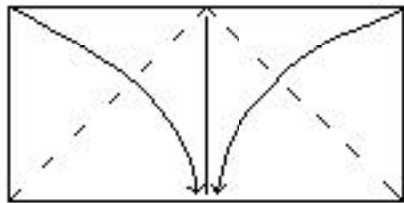
Serge Demers

BUTTERFLY

Use a 2x1 rectangle with a different color on each side.

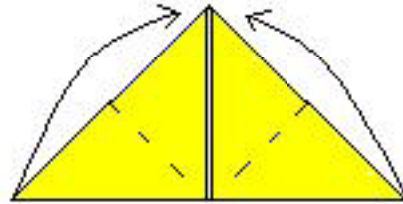
Start with the side with the color you want to be the wings. The other color will be the head and body.

1.



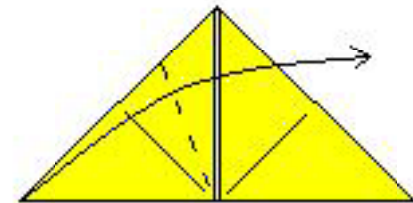
2 valley folds to the center

2.



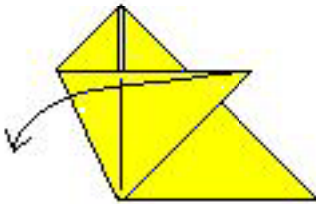
2 valley folds and unfold

3.



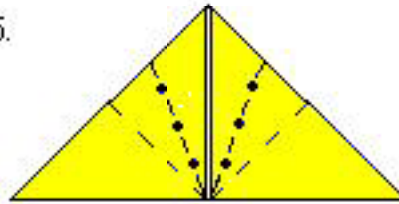
Valley fold to the right lining up the crease made in step 2 with the center line.

4.



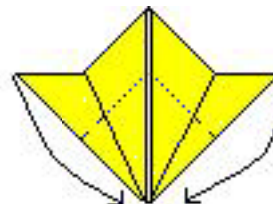
Unfold
Repeat steps
3 and 4 on the right

5.



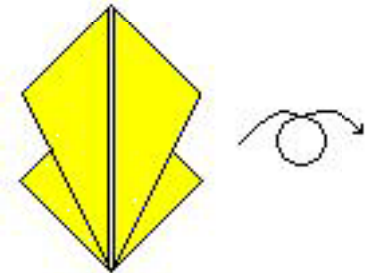
Reverse fold in and
out on each side

6.



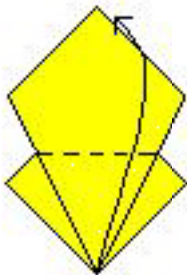
2 reverse folds

7.



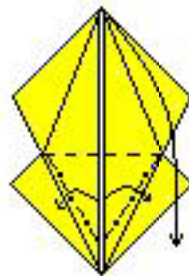
Turn over

8.



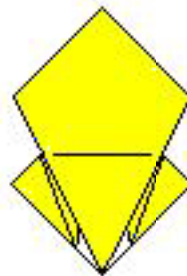
Fold the point up
to the top like a
petal fold

9.



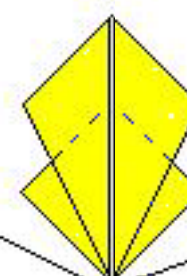
Fold the point back down
while sliding some paper out
on each side

10.



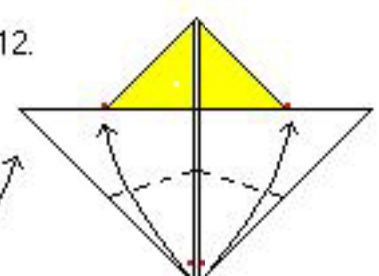
Turn over

11.



Fold the 2 points up

12.



Valley fold the 2
bottom points up so
that the dots line up

Computer Program :

```
public class tester
{
    public static void main(String agrs[]) throws java.io.IOException
    {
        cube test1 = new cube(0);
        YOUR_METHOD_NAME(test1);
        //replace YOUR_METHOD_NAME by the name of your method

        cube test2 = new cube(2);
        YOUR_METHOD_NAME(test2);
        //replace YOUR_METHOD_NAME by the name of your method

        cube test3 = new cube(4);
        YOUR_METHOD_NAME(test3);
        //replace YOUR_METHOD_NAME by the name of your method
    }
}
```

Computers and Algorithms

Computer Science is the study of algorithms for computing machines.

What distinguishes algorithms for computers ?

- Instructions are executed VERY quickly
- Little or no human interaction is possible
- Algorithm must be fully specified before execution
- Algorithm must be unambiguously specified

Definition of Algorithm:

A well-ordered collection of unambiguous and effectively computable operations that when executed produces a result in a finite amount of time.

Computer Science

What features of algorithms are studied ?

- Design and development methodologies
- Representation of algorithms
- Representation of data
- Hardware design for execution
- Efficiency (time and space)
- Non-algorithmic and infeasible problems