Code at Random
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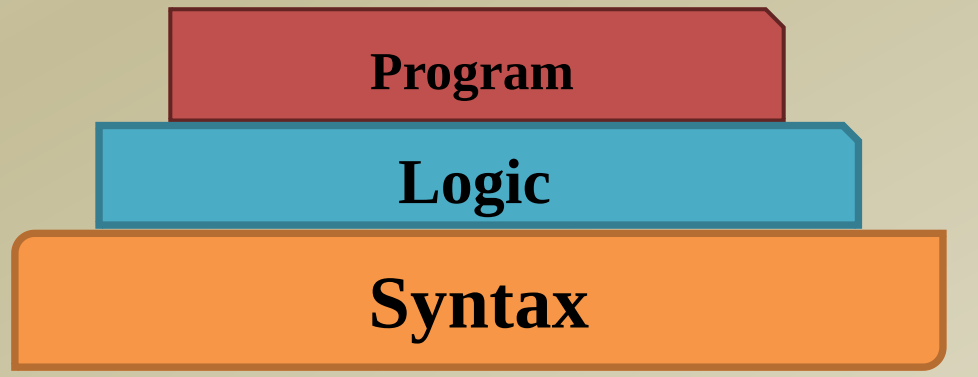
Program to check whether a number is Automorphic or not.



What is an Automorphic Number

- A number is called Automorphic number if and only if its square ends in the same digits as the number itself.

or

- An automorphic number is a natural number whose square "ends" in the same digits as the number itself.
- Examples : 76 is automorphic as 76*76 = 57**76**

  25 is automorphic as 25*25= 6**25**

Some Examples

Automorphic Numbers

$5^2 = 25$

$6^2 = 36$

$76^2 = 5776$

$376^2 = 141376$

$376^2 = 141376$

$376^3 = 53157376$

$376^4 = 19987173376$

Logic For Programming

1. Take a number as input ***(num)***.
2. **Square** the number ***(sqr)***.
3. **Count the number of digits** of ***(num)*** using while loop ***(c)***.
4. **Compare** the last ***(c)*** digits of ***(sqr)*** with the ***(num)***.
5. If they are equal then the number is Automorphic else not.

Final Program

```
import java.util.Scanner;

public class Automorphic {

    public static void main(String args[]){

        Scanner in = new Scanner(System.in);
        System.out.println("Enter a number");
        int num = in.nextInt();

        int c=0, sqr = num*num;
        int temp =num;  //copying num
        //count digits of num
        while(temp>0){
            c++;
            temp=temp/10;
        }

        double lastSquareDigits =  sqr%(Math.pow(10,c));

        if(num == lastSquareDigits)
            System.out.println("Automorphic number");
        else
            System.out.println("Not an Automorphic number");
    }
}
```

Happy Learning!!

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