import java.util.\*;

class Addition\_user\_value

{

public static void main(String ar[])

{

Scanner s=new Scanner(System.in);

System.out.println("enter first number");

int a=s.nextInt();

System.out.println("enter second number");

int b=s.nextInt();

int c=0;

System.out.println("PRESS 1 :ADDITION");

System.out.println("PRESS 2:SUBTRACTION");

System.out.println("PRESS 3: MULTIPLICATION");

System.out.println("PRESS 4: DIVISION");

int choice=s.nextInt();

switch(choice)

{

case 1: c=a+b;

System.out.println("Addition is "+c);

break;

case 2: c=a-b;

System.out.println("sunbtraction is "+c);

break;

case 3: c=a\*b;

System.out.println("multiplication is "+c);

break;

case 4: c=a/b;

System.out.println("Division is "+c);

break;

default:

System.out.println("YOU HAVE ENTERED WRONG INPUT");

}

}

}

/\*class Pattern

{

public static void main(String ar[])

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=5;j++)

{

System.out.print("\*");

}

System.out.println(" ");

}

}

}

\*/

class Main

{

public static void main(String ar[])

{

for(int i=1;i<=5;i++)

{

for(int j=1;j<=i;j++)

{

System.out.print("\*");

}

System.out.println();

}

for(int i=4;i>=1;--i)

{

for(int j=1;j<=i;j++)

{

System.out.print("\*");

}

System.out.println();

}

}

}

class Main

{

public static void main(String ar[])

{

for(int i=1;i<=5;++i)

{

for(int j=i;j>=1;--j)

{

System.out.print(" "+j);

}

System.out.println(" ");

}

}

}

**\*\*upper triangle\*\***

**Output:**

\*  
      \*\*\*  
    \*\*\*\*\*  
  \*\*\*\*\*\*\*  
\*\*\*\*\*\*\*\*\*

public class Main

{

public static void main(String[] args) {

for(int i=1;i<=5;i++)

{

for(int j=i;j<5;j++)

{

System.out.print(" ");

}

for(int j=1;j<=i;j++)

{

System.out.print("\*");

}

for(int j=1;j<i;j++)

{

System.out.print("\*");

}

System.out.println();

}

}

}

=================================================================================

**\*\*Lower triangle\*\***

public class Main

{

public static void main(String[] args) {

for(int i=1;i<=5;i++)

{

for(int j=1;j<i;j++)

{

System.out.print(" ");

}

for(int j=i;j<=5;j++)

{

System.out.print("\*");

}

for(int j=i;j<5;j++)

{

System.out.print("\*");

}

System.out.println();

}

}

}

**\*\*Diamond pattern\*\***

public class Main

{

public static void main(String[] args) {

for(int i=1;i<=5;i++)

{

for(int j=i;j<=4;j++)

{

System.out.print(" ");

}

for(int j=1;j<=i;j++)

{

System.out.print("\*");

}

for(int j=1;j<i;j++)

{

System.out.print("\*");

}

System.out.println();

}

for(int i=1;i<=4;i++)

{

for(int j=1;j<=i;j++)

{

System.out.print(" ");

}

for(int j=i;j<=4;j++)

{

System.out.print("\*");

}

for(int j=i;j<=3;j++)

{

System.out.print("\*");

}

System.out.println();

}

}

}

**Type-1 \*\*upper triangle number triangle\*\***

**Output:**

**1  
      222  
    33333  
  4444444  
555555555**

public class Main

{

public static void main(String[] args) {

for(int i=1;i<=5;i++){

for(int j=i;j<=4;j++){

System.out.print(" ");

}

for(int k=1;k<=i;k++){

System.out.print(i);

}

for(int k=2;k<=i;k++){

System.out.print(i);

}

System.out.println();

}

}

}

**Type -2 \*\*upper triangle number triangle\*\***

**Output:**

**1  
      212  
    32123  
  4321234  
543212345**

public class Main

{

public static void main(String[] args) {

for(int i=1;i<=5;i++){

for(int j=i;j<=4;j++){

System.out.print(" ");

}

for(int k=i;k>=1;k--){

System.out.print(k);

}

for(int k=2;k<=i;k++){

System.out.print(k);

}

System.out.println();

}

}

}

=============================================================================

class palindrome

{

public static void main(String [] args )

{

int num =121 ;

int rev=0,rem,temp=0;

temp=num;

while(num !=0)

{

rem=num%10;

rev = rev\*10 +rem;

num=num/10;

}

if (rev == temp)

System.out.println("its a palindrome number");

else

System.out.println("its not a palindrome number");

}

}

class Count\_Prime

{

public static void count\_prime(int l,int u)

{

int temp=0;

int count = 0;

if(l==0 || l==1)

{

for(int i=0;i<=100;++i)

{

for(int j=2;j<=i-1;++j)

{

if((i%j)==0)

{

count=count +1;

}

}

if(count ==0)

{

System.out.println(i);

}

else

count =0;

}

}

}

import java.util.\*;

class Main

{

public static void prime(int n)

{

int temp = 0;

if(n ==0|| n ==1)

temp =1;

for(int i=2;i<=n/2;++i)

{

if((n%i)==0)

{

temp=temp+1;

break;

}

}

if(temp==0)

System.out.println("the num is prime");

else

System.out.println("the num is not prime");

}

//2nd method without using temp variable.

class Prime {

static boolean isPrime(int n) {

// Check if number is <= 1

if (n <= 1)

return false;

// Check for factors

for (int i = 2; i <= n / 2; i++) {

if (n % i == 0)

return false;

}

return true;

}

public static void main(String[] args) {

if (isPrime(11)) {

System.out.println("The number is prime");

}

else {

System.out.println("The number is not prime");

}

}

}

//3rd using Math.sqrt(n) method

1. import java.util.Scanner;
3. **public** **class** PrimeExample3 {
5. **public** **static** **void** main(String[] args) {
6. Scanner s = **new** Scanner(System.in);
7. System.out.print("Enter a number : ");
8. **int** n = s.nextInt();
9. **if** (isPrime(n)) {
10. System.out.println(n + " is a prime number");
11. } **else** {
12. System.out.println(n + " is not a prime number");
13. }
14. }
16. **public** **static** boolean isPrime(**int** n) {
17. **if** (n <= 1) {
18. **return** **false**;
19. }
20. **for** (**int** i = 2; i **< Math.sqrt(n);** i++) {
21. **if** (n % i == 0) {
22. **return** **false**;
23. }
24. }
25. **return** **true**;
26. }
27. }

public static void count\_prime(int l,int u)

{

int temp=0;

int count = 0;

if(l==0 || l==1)

{

l=2;

}

for(int i=l;i<=u;++i)

{

for(int j=2;j<=i-1;++j)

{

if((i%j)==0)

{

temp=temp +1;

}

}

if(temp ==0)

{

System.out.println(i);

count=count+1;

}

else

temp =0;

}

System.out.println("the count is:"+count);

}

} public static void main(String ar[])

{

Scanner sc =new Scanner(System.in);

System.out.println("enter the upper number:");

int upp = sc.nextInt();

prime(upp);

System.out.println("enter the lower number:");

int low = sc.nextInt();

count\_prime(low,upp);

}

}

import java.util.\*;

class Swap

{

void swap1(int num1,int num2)

{

num1 = num1 + num2;

num2 = num1- num2;

num1 = num1-num2;

System.out.println("after swap not using third variable num1:"+num1+" num2:"+num2);

}

void swap2(int n1,int n2)

{

n1 = n1 ^ n2;

n2 = n1 ^ n2;

n1 = n1 ^ n2;

System.out.println("after swap using bitwise XOR operator num1:"+n1+" num2:"+n2);

}

}

class Main

{

public static void main(String [] arg)

{

Scanner s =new Scanner(System.in);

System.out.println("enter num1:");

int num1 = s.nextInt();

System.out.println("enter num2:");

int num2= s.nextInt();

Swap s1=new Swap();

s1.swap1(num1,num2);

s1.swap2(num1,num2);

}

}

import java.util.\*;

class Armstrong

{

public static void main(String ar[])

{

Scanner sc =new Scanner(System.in);

System.out.println("enter the number:");

int num = sc.nextInt();

//int num = 153;

int temp = num;

int rem,sumofcubes=0;

while(num!=0)

{

rem=num%10;

sumofcubes=sumofcubes+ (rem \* rem \* rem);

num = num/10;

}

if( temp == sumofcubes)

System.out.println("its a armstrong number");

else

System.out.println("its not a armstrong number");

}

}

import java.util.\*;

import java.math;

class Main

{

public static void main(String ar[])

{

Scanner sc =new Scanner(System.in);

System.out.println("enter the number:");

int num = sc.nextInt();

//int num = 153;

int temp = num;

System.out.println("enter the number:");

int digit = sc.nextInt();

int rem,sumofcubes=0;

while(num!=0)

{

rem=num%10;

sumofcubes=sumofcubes+ pow(rem,digit);

num = num/10;

}

if( temp == sumofcubes)

System.out.println("its a armstrong number");

else

System.out.println("its not a armstrong number");

}

}

import java.util.\*;

class Main

{

public static void main(String ar[])

{

Scanner sc =new Scanner(System.in);

System.out.println("enter the number:");

int num = sc.nextInt();

int temp = num;

int temp1=temp;

int sum=0;

int count=0;

while(num!=0)

{

num = num/10;

count++;

}

//System.out.println(num);

//System.out.println("the count is:"+count);

for(int i=0;i<count;++i)

{

int mul=1;

int rem;

rem = temp%10;

//System.out.println(rem);

for(int j=0;j<count;++j)

{

mul = mul \* rem;

}

sum = sum + mul;

//System.out.println(sum);

temp = temp/10;

}

if(temp1==sum)

System.out.println("its a armstrong number");

else

System.out.println("its not a armstrong number");

}

}

//linear searchi in array……………………

import java.util.\*;

public class Linearsearch

{

public static void main(String[] args)

{

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int key;

int temp=0;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

int arr[]= new int[num];

System.out.println("enter elements in array :");

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

System.out.println("elements in array are:");

for(int j=0;j<num;++j)

{

System.out.println(arr[j]);

}

System.out.println("enter key to be searched");

key=sc.nextInt();

int k;

for( k=0;k<num;++k)

{

if(arr[k]==key)

temp++;

}

if(temp==0)

System.out.println("element is not present in array");

else

System.out.println("element is present at "+k+"th position in array");

}

}

**\*\*binary search\*\***

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int key;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

int arr[]= new int[num];

System.out.println("enter elements in array :");

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

System.out.println("elements in array are:");

for(int j=0;j<arr.length;++j)

{

System.out.println(arr[j]);

}

System.out.println("enter key to be searched");

key=sc.nextInt();

int low =0;

int high = arr.length-1;

int mid = (low+high)/2;

while(low<=high){

if(arr[mid]==key){

System.out.println("element present at "+(mid+1)+" position in array");

break;

}

else if(arr[mid]<key)

low = mid + 1;

else

high = mid -1 ;

mid= (low+high)/2;

}

if(low>high)

System.out.println("element is not present in array");

}

}

==================================================================================

//Addition of an array elements

import java.util.\*;

public class Addition\_array

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

int arr[]= new int[20];

int temp=0;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

for(int j=0;j<num;++j)

{

System.out.println(arr[j]);

}

for(int i=0;i<num;++i)

{

temp=temp+arr[i];

}

System.out.println("addition of elements in array is:"+temp);

}

}

//Bubble sort

import java.util.\*;

public class bubble\_sort

{

public static void main(String[] args)

{

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int arr[]= new int[20];

int temp=0;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

System.out.println("the elements in array is:");

for(int j=0;j<num;++j)

{

System.out.println(arr[j]);

}

System.out.println("sorted elements in array is:");

// for(int i=0;i<num;++i)

// {

// // for efficeincy we use num-1-i so that when after 1st pass greater element at end will not be

// //compared in 2nd pass.

// for(int j=0;j<num-i-1;++j)

// {

// if(arr[j]>arr[j+1])

// {

// temp=arr[j];

// arr[j]=arr[j+1];

// arr[j+1]=temp;

// }

// }

// }

//for more efficient we use flag variable so that if array is already sorted after 1st pass

//it will not go again to outer for loop again.

for(int i=0;i<num;++i)

{

int flag = 0;

for(int j=0;j<num-i-1;++j)

{

if(arr[j]>arr[j+1])

{

temp=arr[j];

arr[j]=arr[j+1];

arr[j+1]=temp;

flag = 1;

}

}

if(flag==0)

break;

}

for(int k=0;k<num;++k)

{

System.out.println(arr[k]);

}

}

}

//maximum and minimum number in array

import java.util.\*;

public class Max\_Min\_Array

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

int arr[]= new int[20];

int temp=0;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

System.out.println("the elements in array is:");

for(int j=0;j<num;++j)

{

System.out.println(arr[j]);

}

for(int i=0;i<num;++i)

{

for(int j=0;j<num-i-1;++j)

{

if(arr[j]>arr[j+1])

{

temp=arr[j];

arr[j]=arr[j+1];

arr[j+1]=temp;

}

}

}

System.out.println("the maximum number in a array is"+arr[num-1]);

System.out.println("the minimum number in a array is"+arr[0]);

}

}

//reverse array

import java.util.\*;

public class Reverse\_Array

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

int arr[]= new int[20];

int temp=0;

System.out.println("enter number of elements in array");

int num = sc.nextInt();

for(int i=0;i<num;++i)

{

arr[i]=sc.nextInt();

}

System.out.println("the elements in array is:");

for(int j=0;j<num;++j)

{

System.out.println(arr[j]);

}

System.out.println("the reverse array is:");

for(int k=num-1;k>=0;--k)

{

System.out.println(arr[k]);

}

}

}

==============================================================================