1. Write a program to print the 1 to 5 numbers with thread name with the help of 4 thread and your thread execution like – First thread completed, then second started and completed, then third started etc.

import java.util.\*;

class Solution

{

public void print1()

{

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

System.out.println(i);

}

public void print2()

{

for(int i=6;i<=10;i++)

System.out.println(i);

}

public void print3()

{

for(int i=11;i<=15;i++)

System.out.println(i);

}

public void print4()

{

for(int i=16;i<=20;i++)

System.out.println(i);

}

}

public class Main

{

public static void main(String[] args) {

Solution S=new Solution();

//Solution S1=new Solution();

Thread t1=new Thread(new Runnable()

{

public void run()

{

System.out.println("AT THREAD 1");

S.print1();

}

});

Thread t2=new Thread(new Runnable()

{

public void run()

{

System.out.println("AT THREAD 2");

S.print2();

}

});

Thread t3=new Thread(new Runnable()

{

public void run()

{

System.out.println("AT THREAD 3");

S.print3();

}

});

Thread t4=new Thread(new Runnable()

{

public void run()

{

System.out.println("AT THREAD 4");

S.print4();

}

});

try

{

System.out.println("Thread 1 started");

t1.start();

t1.join();

System.out.println("Thread 1 ended");

System.out.println("Thread 2 started");

t2.start();

t2.join();

System.out.println("Thread 2 ended");

System.out.println("Thread 3 started");

t3.start();

t3.join();

System.out.println("Thread 3 ended");

System.out.println("Thread 4 started");

t4.start();

t4.join();

System.out.println("Thread 4 ended");

}

catch(Exception e)

{

}

}}

1. Write a program to create the 3 sub thread classes where first class print the sum of prime number between 1 to 50 and second class print the missing number from the array and third class print the initilize caracter count of string like- if input String is String input = "aabbbccddaaabbccceeff";

then output should be like this- output = a2b3c2d2a3b2c3e2f2"

Now create 3 thread where thread executes only one task.

import java.util.\*;

class S

{

public boolean isprime(int n)

{

int count=0;

for(int i=1;i<=n/2;i++)

{

if(n%i==0)

{

count++;

}

}

if(count>2)

{

return false;

}

return true;

}

public void sumofprimes()

{

int sum=0;

for(int i=1;i<=50;i++)

{

if(isprime(i))

{

sum=sum+i;

}

}

System.out.println("Sum of primes from 1 to 50: "+ sum);

}

public void missingnumbers(int[] arr)

{

HashSet<Integer> map=new HashSet<Integer>();

Arrays.sort(arr);

int min=arr[0];

int max=arr[arr.length-1];

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

{

map.add(arr[i]);

}

ArrayList<Integer> result=new ArrayList<Integer>();

for(int i=min;i<max;i++)

{

if(!map.contains(i))

{

result.add(i);

}

}

System.out.println("The missing numbers in array are: ");

for(Integer a : result)

{

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

}

}

public void charchtercount(String s)

{

String result="";

int len=s.length();

int count=1;

char a=s.charAt(0);

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

{

if(s.charAt(i)==a)

{

count++;

}

else if(s.charAt(i)!=a)

{

result=result+a+Integer.toString(count);

count=1;

a=s.charAt(i);

}

}

result=result+a+Integer.toString(count);

System.out.println(result);

}

}

public class Main

{

public static void main(String[] args) {

S s=new S();

Scanner sc=new Scanner(System.in);

// int sum\_primes;

System.out.println("Enter the length of array: ");

int array\_length=sc.nextInt();

int[] arr=new int[array\_length];

System.out.println("Enter the elements of array: ");

for(int i=0;i<array\_length;i++)

{

arr[i]=sc.nextInt();

}

//s.missingnumbers(arr);

System.out.println("Enter the string: ");

String str=sc.next();

//String result;

// ArrayList<Integer> missing\_numbers=new ArrayList<Integer>();

Thread t1=new Thread(new Runnable()

{

public void run()

{

s.sumofprimes();

}

});

Thread t2=new Thread(new Runnable()

{

public void run()

{

s.missingnumbers(arr);

}

});

Thread t3=new Thread(new Runnable()

{

public void run()

{

System.out.println();

s.charchtercount(str);

}

});

try {

t1.start();

t1.join();

t2.start();

t2.join();

t3.start();

t3.join();

} catch(Exception e) {

}

}

}