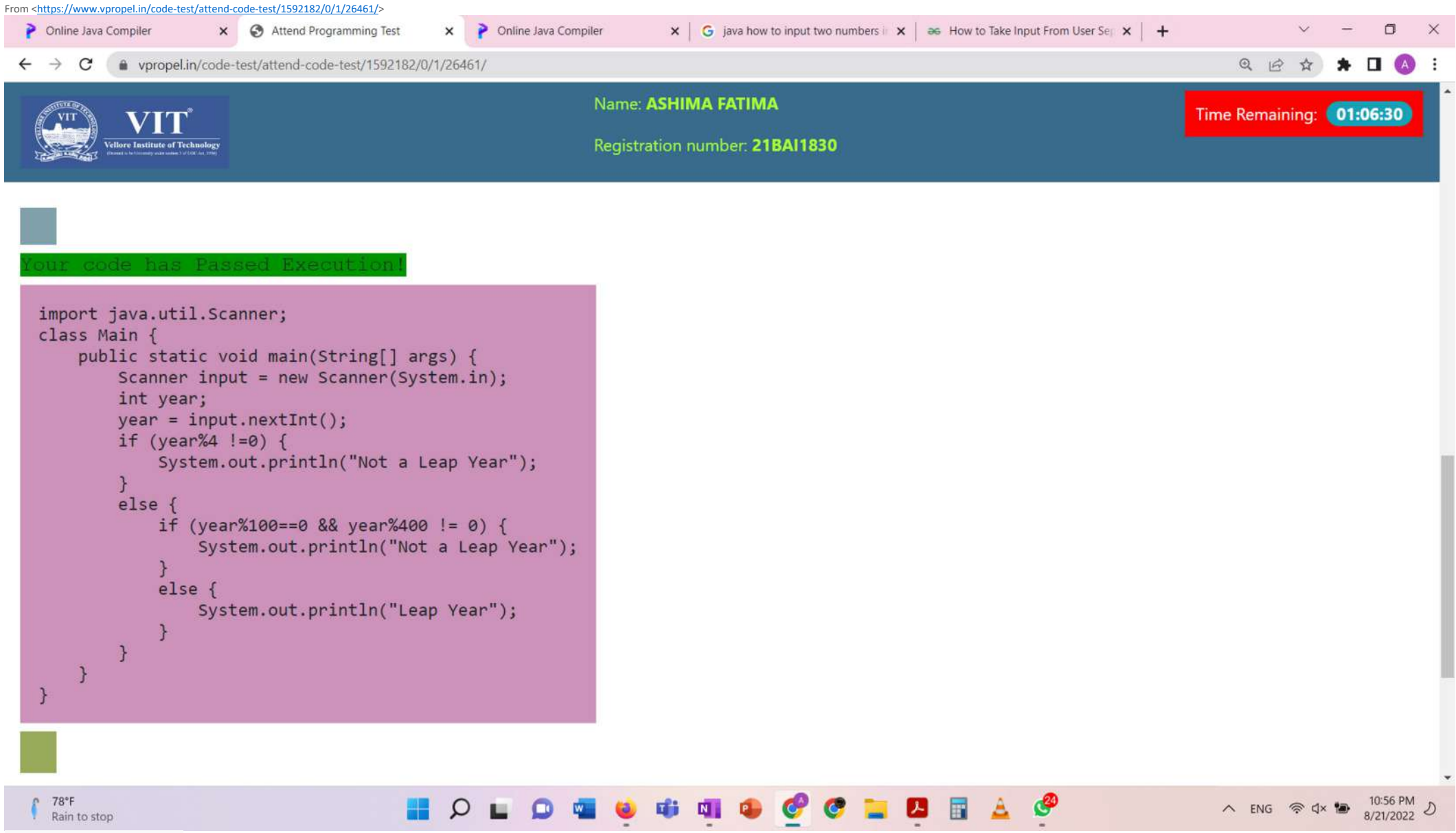
IPS3 Command Structures

Sunday, August 21, 2022 10:55 PM

Leap Year using Java

Write a Java Program to check whether the given year is leap year or not.

From <https://www.vpropel.in/code-test/attend-code-test/1592182/0/1/26461/>



Factors of number using Java

Write a Java program to print the factors of a given number.

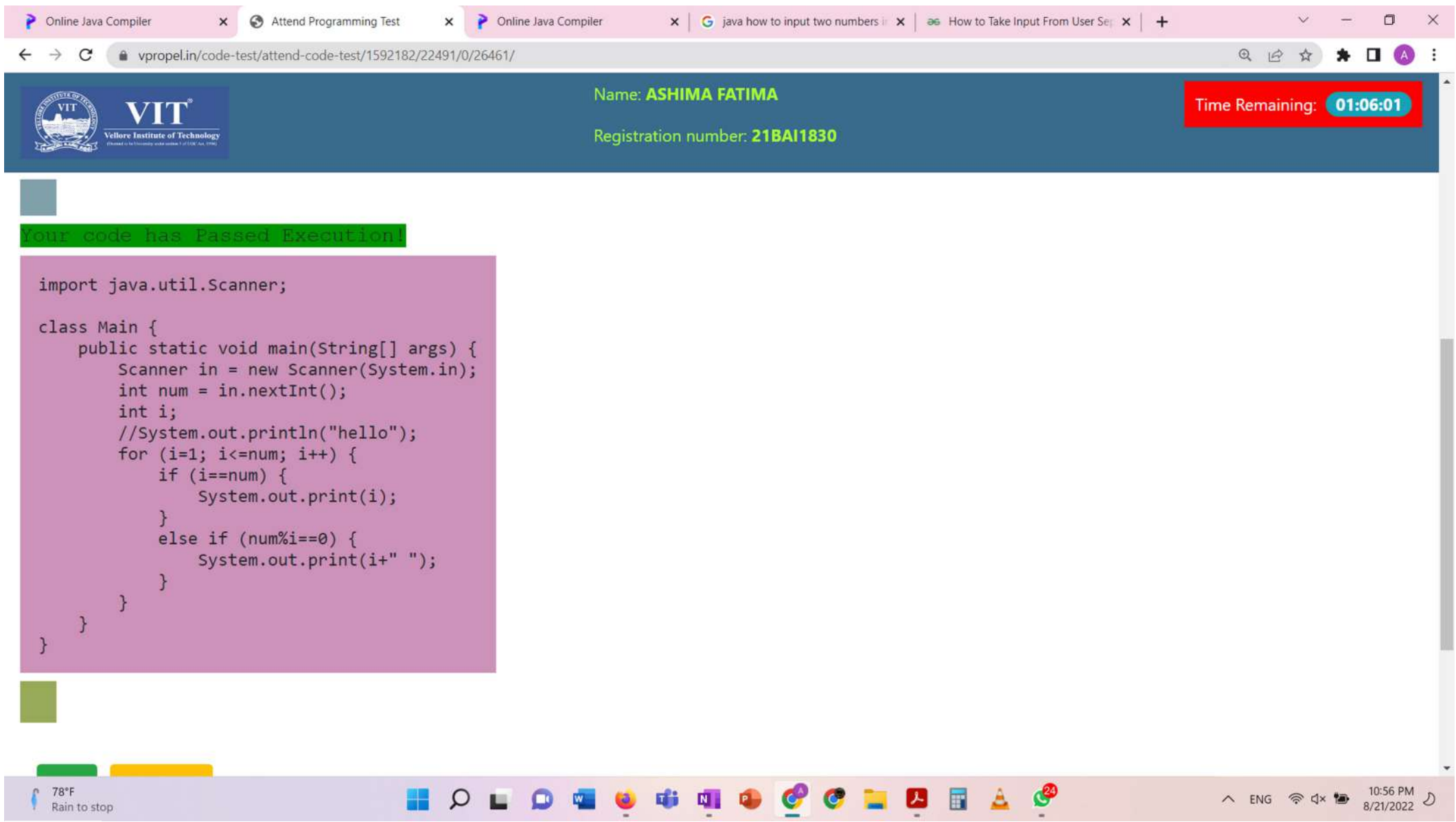
Sample Input:

144

Sample Output:

1 2 3 4 6 8 9 12 16 18 24 36 48 72 144

From <https://www.vpropel.in/code-test/attend-code-test/1592182/22491/0/26461/>



Square Integers

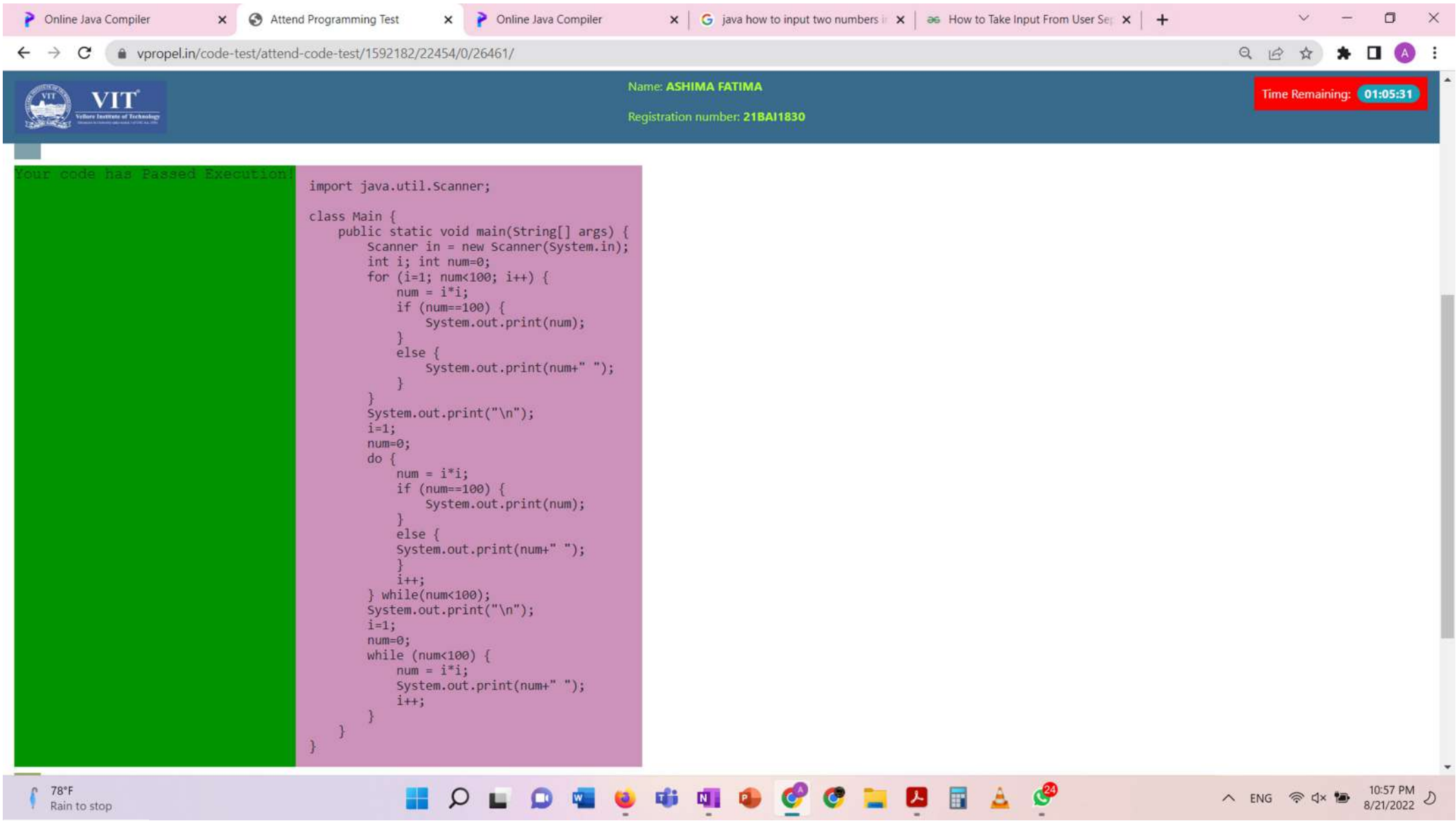
Print the square of integers from 1 to 100 using three different loop statements (For, while and Do while)

1 4 9 16 25 36 49 64 81 100

1 4 9 16 25 36 49 64 81 100

1 4 9 16 25 36 49 64 81 100

From <https://www.vpropel.in/code-test/attend-code-test/1592182/22454/0/26461/>



Surprise Chocolate Plan

Kids Play school is planning for a slow walk race for 'n' children. The kid who touches the finishing line first gets 0 chocolate. The second kid gets 1 chocolate. The numer of chocolates the third kid gets is the sum of chocolates given to first and second kid. Fourth kid gets sum of chocolates of second and third kids and it goes on. Print the number of chocolates got by each kid.

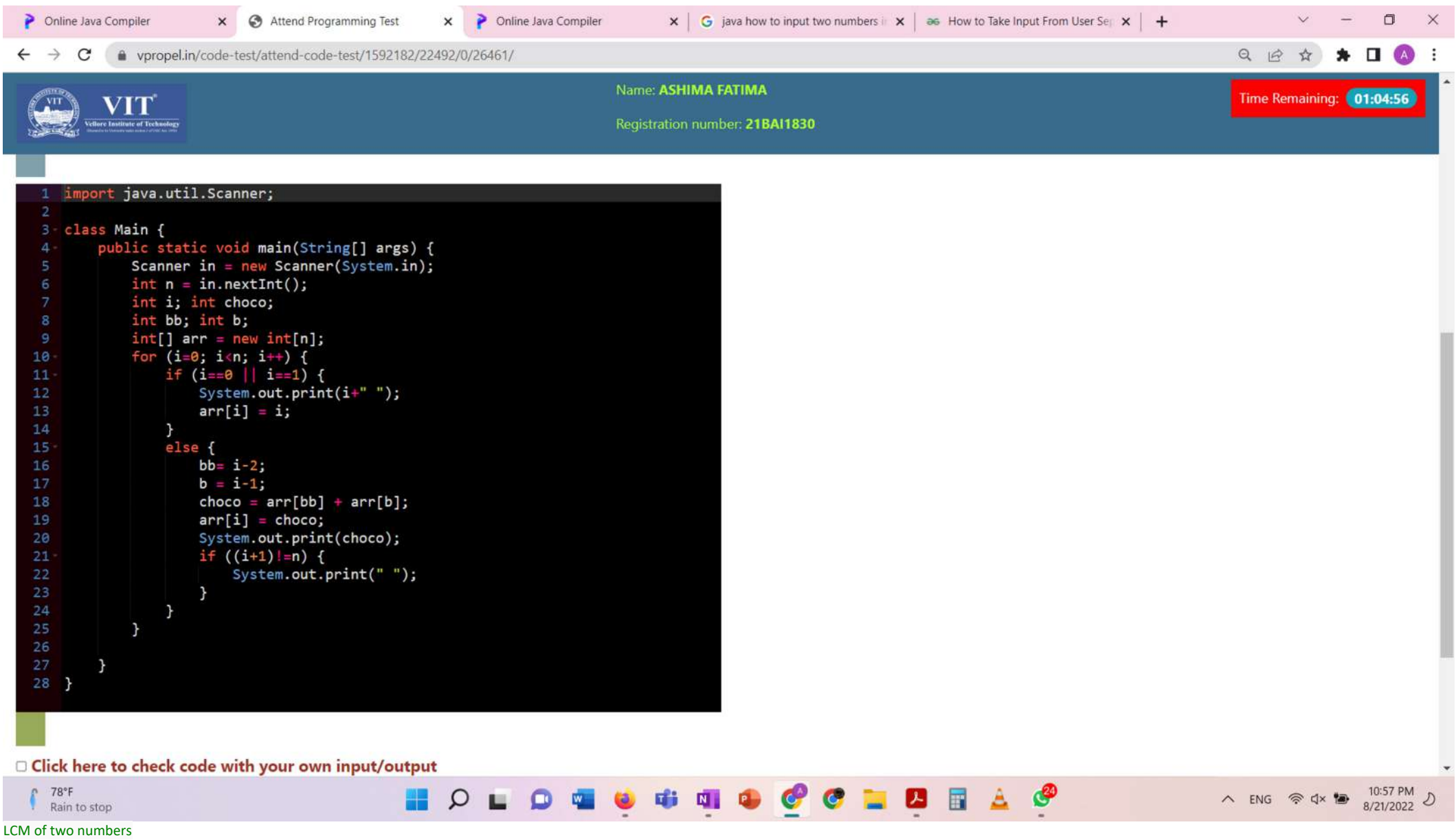
Sample Input:

5 - Number of Children - Integer

Sample Output:

0 1 1 2 3

From <https://www.vpropel.in/code-test/attend-code-test/1592182/22492/0/26461/>



LCM of two numbers

Write a Java program to find the LCM of two numbers.

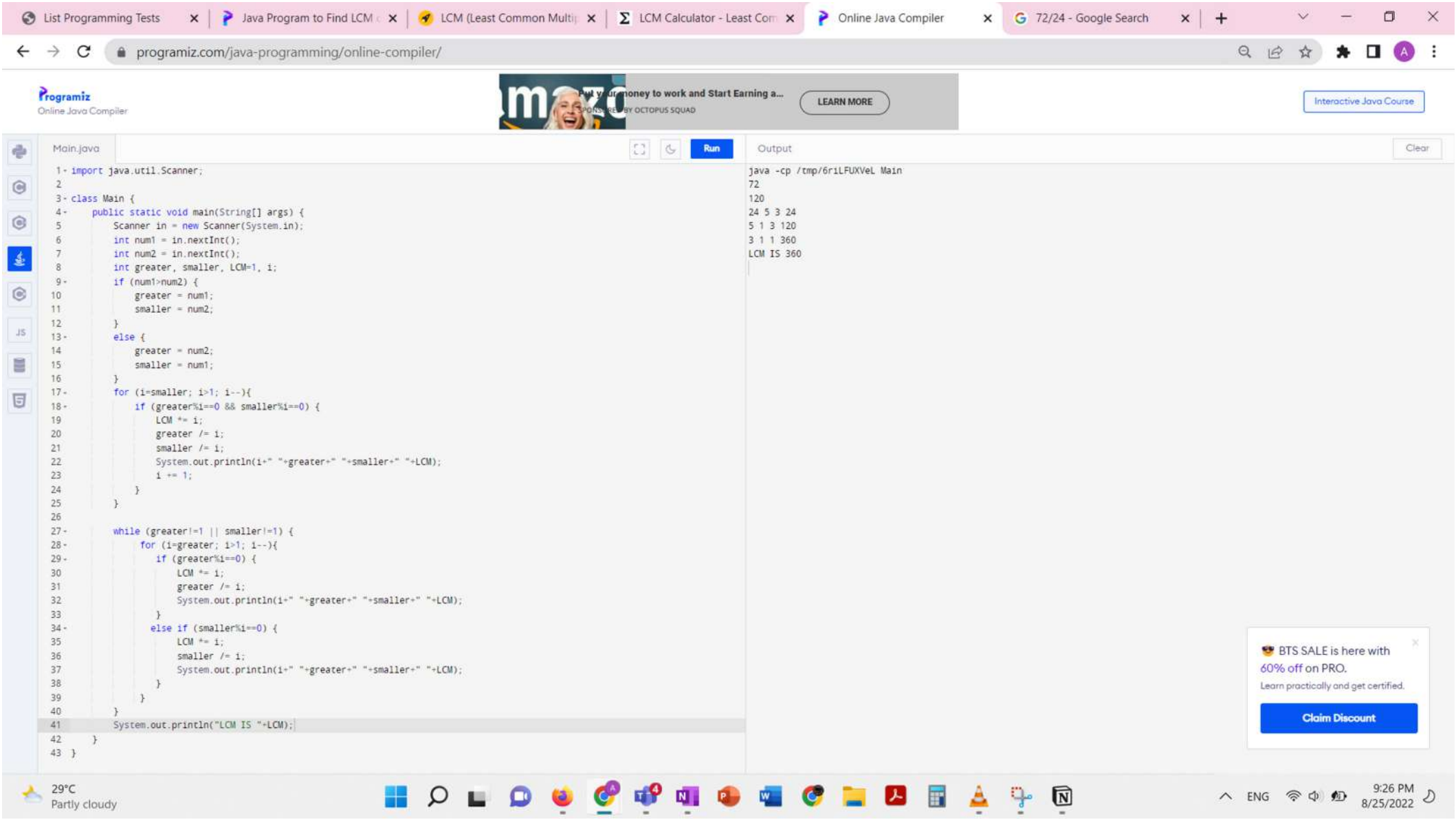
Sample Input:

72 120

Sample Output

360

From <https://www.vpropel.in/code-test/attend-code-test/1592182/22494/0/26461/>


List Programming Tests
Java Program to Find LCM
LCM (Least Common Multi
LCM Calculator - Least Com
Online Java Compiler
72/24 - Google Search
programiz.com/java-programming/online-compiler/
Programiz
Online Java Compiler
Put your money to work and Start Earning a...
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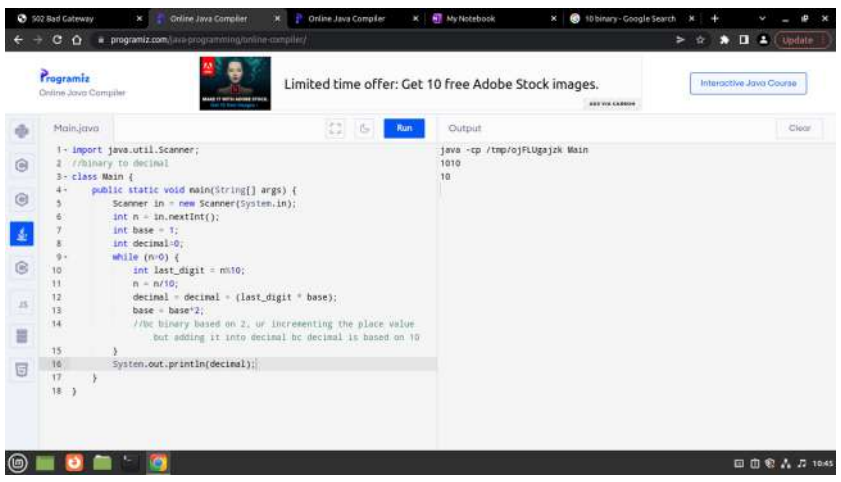
Main.java
Run
Output
Clear
1 import java.util.Scanner;
2
3 class Main {
4 public static void main(String[] args) {
5 Scanner in = new Scanner(System.in);
6 int num1 = in.nextInt();
7 int num2 = in.nextInt();
8 int greater, smaller, LCM=1, i;
9 if (num1>num2) {
10 greater = num1;
11 smaller = num2;
12 }
13 else {
14 greater = num2;
15 smaller = num1;
16 }
17 for (i=smaller; i>1; i--){
18 if (greater%i==0 && smaller%i==0) {
19 LCM *= i;
20 greater /= i;
21 smaller /= i;
22 System.out.println(i+" "+greater+" "+smaller+" "+LCM);
23 i += 1;
24 }
25 }
26
27 while (greater!=1 || smaller!=1) {
28 for (i=greater; i>1; i--){
29 if (greater%i==0) {
30 LCM *= i;
31 greater /= i;
32 System.out.println(i+" "+greater+" "+smaller+" "+LCM);
33 }
34 else if (smaller%i==0) {
35 LCM *= i;
36 smaller /= i;
37 System.out.println(i+" "+greater+" "+smaller+" "+LCM);
38 }
39 }
40 }
41 System.out.println("LCM IS "+LCM);
42 }
43 }
java -cp /tmp/6riLFUXVeL Main
72
120
24 5 3 24
5 1 3 120
3 1 1 360
LCM IS 360
BTS SALE is here with
60% off on PRO.
Learn practically and get certified.
Claim Discount
29°C
Partly cloudy
ENG
9:26 PM
8/25/2022

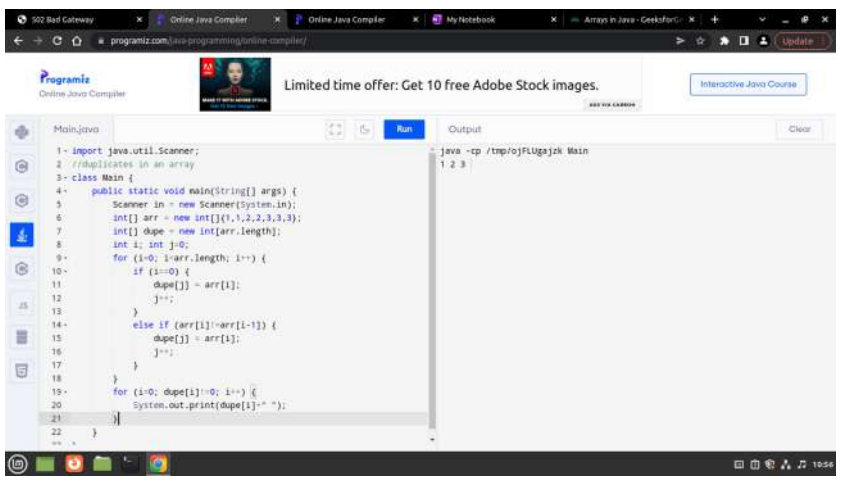
27/8 Int array problems

Monday, August 22, 2022 10:22 AM

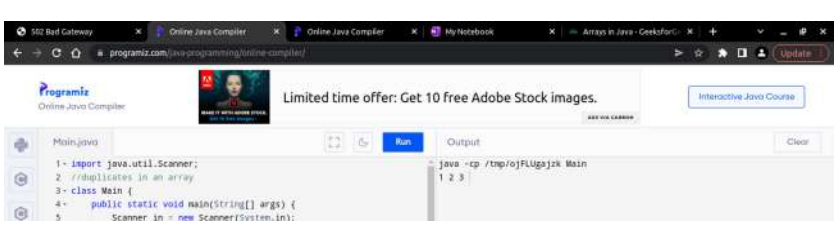

```
import java.util.Scanner;
//decimal to binary
class Main {
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      int n = in.nextInt();
      int i;
      int[] arr = new int[50];
      for (i=0; n>0; i++) {
         arr[i] = n%2;
         n = n/2;
      }
      for (int j= i-1; j>=0; j--) {
         System.out.print(arr[j]);
      }
   }
}
```



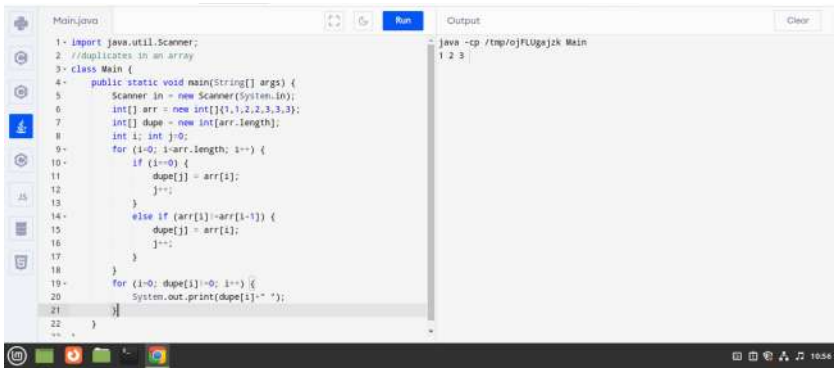

```
import java.util.Scanner;
//binary to decimal
class Main {
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      int n = in.nextInt();
      int base = 1;
      int decimal=0;
      while (n>0) {
         int last_digit = n%10;
         n = n/10;
         decimal = decimal + (last_digit * base);
         base = base*2;
         //bc binary based on 2, ur incrementing the place value but adding it into decimal bc decimal is
based on 10
      }
      System.out.println(decimal);
   }
}
```




```
import java.util.Scanner;
//duplicates in an array
class Main {
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      int[] arr = new int[]{1,1,2,2,3,3,3};
      int[] dupe = new int[arr.length];
      int i; int j=0;
      for (i=0; i<arr.length; i++) {
         if (i==0) {
            dupe[j] = arr[i];
            j++;
         }
         else if (arr[i]!=arr[i-1]) {
            dupe[j] = arr[i];
            j++;
         }
      }
      for (i=0; dupe[i]!=0; i++) {
         System.out.print(dupe[i]+" ");
      }
   }
}
```

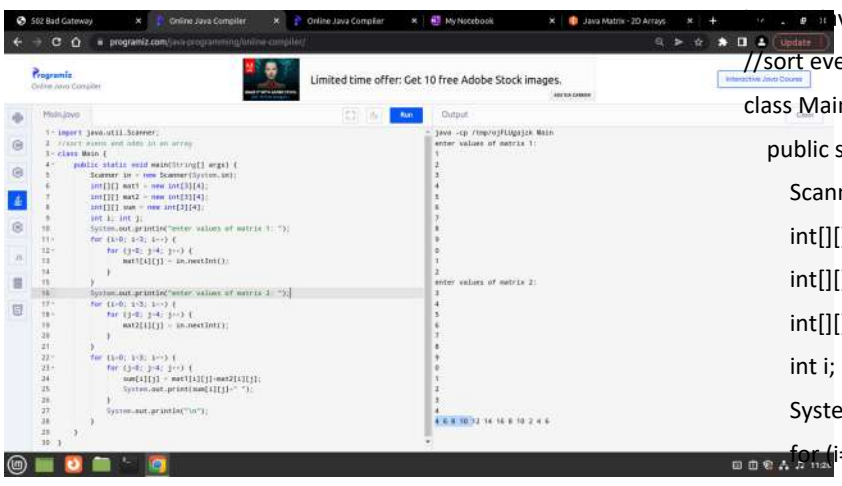



```
import java.util.Scanner;
//sort evens and odds in an array
class Main {
   public static void main(String[] args) {
```




```
class Main {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    System.out.println("Enter number of values:");
    int n = in.nextInt();
    int i;
    int[] arr = new int[n];
    int[] even = new int[n];
    int[] odd = new int[n];
    for (i=0; i<n; i++) {
      arr[i] = in.nextInt();
      even[i] = -1;
      odd[i] = -1;
    }
    int j=0; int k =0;
    for (i=0; i<n; i++) {
      if (arr[i]%2==0) {
        even[j] = arr[i];
        j++;
      }
      else {
        odd[k] = arr[i];
        k++;
      }
    }
    System.out.println("Even values are: ");
    for (i=0; even[i]!=-1; i++) {
      System.out.println(even[i]+" ");
    }
    System.out.println("Odd values are: ");
    for (i=0; odd[i]!=-1; i++) {
      System.out.println(odd[i]+" ");
    }
  }
}
```

wrapper class in java
Matrix addition/ subtraction of 2 3x4 matrix
A 2d array in C is diff from in java
    Can leave 2nd dimension blank and it isn't fixed in java
    Therefore, number of columns for each row can be diff.
Multidimensional arrays in java called arrays of arrays




```
va.util.Scanner;
//sort evens and odds in an array
class Main {
public static void main(String[] args) {
  Scanner in = new Scanner(System.in);
  int[][] mat1 = new int[3][4];
  int[][] mat2 = new int[3][4];
  int[][] sum = new int[3][4];
  int i; int j;
  System.out.println("enter values of matrix 1: ");
  for (i=0; i<3; i++) {
    for (j=0; j<4; j++) {
      mat1[i][j] = in.nextInt();
    }
  }
  System.out.println("enter values of matrix 2: ");
  for (i=0; i<3; i++) {
    for (j=0; j<4; j++) {
      mat2[i][j] = in.nextInt();
    }
  }
  for (i=0; i<3; i++) {
    for (j=0; j<4; j++) {
      sum[i][j] = mat1[i][j]+mat2[i][j];
      System.out.print(sum[i][j]+" ");
```

```
            }
            System.out.println("\n");
        }
    }
}
```

IPS 4

Tuesday, August 23, 2022 11:50 PM

Multiplication table

Read an integer and print its multiplication table.

Sample I/O:

2

2*1=2

2*2=4

2*3=6

.

.

.

2*10=20

Font Size: 18

Language: Select a Theme

Editor Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        for (int i=1; i<11; i++) {
            System.out.println(n+"*"+i+"="+(n*i));
        }
    }
}
```

Remove Duplicated from a sorted array

Write a Java program to remove duplicate elements from a sorted array.

Sample I/O

7

1 1 2 2 2 3 3

1 2 3

Font Size

18

Language

Editor Theme

Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
//duplicates in an array
class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int[] arr = new int[n];
        int i; int j=0;
        for (i=0; i<n; i++) {
            arr[i] = in.nextInt();
        }
        int[] dupe = new int[arr.length];
        for (i=0; i<arr.length; i++) {
            if (i==0) {
                dupe[j] = arr[i];
                j++;
            }
            else if (arr[i]!=arr[i-1]) {
                dupe[j] = arr[i];
                j++;
            }
        }
        for (i=0; dupe[i]!=0; i++) {
            System.out.print(dupe[i]+" ");
        }
    }
}
```

Sort the given array

Write a Java program to sort the given array.

Sample I/O:

6

12 2 3 5 78 21

2 3 5 12 21 78

Font Size

18

Language

Editor Theme

Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int i; int j=0; int min; int temp;
        int[] arr = new int[n];
        for (i=0; i<n; i++) {
            arr[i] = in.nextInt();
        }
        for (i=0; i<n-1; i++) {
            min = arr[i];
            for (j=i+1; j<n; j++) {
                if (arr[j]<min) {
                    temp = arr[i];
                    arr[i] = arr[j];
                    arr[j] = temp;
                    break;
                }
            }
        }
        for (i=0; i<n; i++) {
            System.out.print(arr[i]+" ");
        }
    }
}
```

Binary to Decimal Conversion

Write a Java Program to convert the given binary number into decimal.

Sample Input:

1010

Output:

10

Font Size

18

Language

Editor Theme

Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
//binary to decimal
class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int base = 1;
        int decimal=0;
        while (n>0) {
            int last_digit = n%10;
            n = n/10;
            decimal = decimal + (last_digit * base);
            base = base*2;
            //bc binary based on 2, ur incrementing the place value but adding it into decimal bc decimal is based on 10
        }
        System.out.println(decimal);
    }
}
```

Decimal to Binary Conversion

Write a java program to convert the given decimal number to binary.

Sample Input:

7

Sample Output:

111

Font Size

18

Language

Editor Theme

Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
//decimal to binary
class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int i;
        int[] arr = new int[50];
        for (i=0; n>0; i++) {
            arr[i] = n%2;
            n = n/2;
        }
        for (int j= i-1; j>=0; j--) {
            System.out.print(arr[j]);
        }
    }
}
```

IPS 5 Single D Arrays

Saturday, August 27, 2022 9:04 PM

Merge Sorted Arrays

Given two sorted arrays of different size, merge these arrays into a single sorted array.

Sample I/O:

5

12 18 26 27 32

8

8 10 15 28 36 45 78 96

Output:

8 10 12 15 18 26 27 28 32 36 45 78 96

Font Size: 18 | Language | Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n1; int n2; int i;
        n1 = in.nextInt();
        int[] arr1 = new int[n1];
        for (i=0; i<n1; i++) {
            arr1[i] = in.nextInt();
        }
        n2 = in.nextInt();
        int[] arr2 = new int[n2];
        for (i=0; i<n2; i++) {
            arr2[i] = in.nextInt();
        }
        int n3 = n1+n2;
        int[] merged = new int[n3];
        for (i=0; i<n3; i++) {
            if (i<n2) {
                merged[i] = arr2[i];
            }
            else {
                merged[i] = arr1[i-n2];
            }
        }
        int min; int j;
        for (i=0; i<(n3-1); i++) {
            min = merged[i];
            for (j=i+1; j<n3; j++) {
                if (merged[j] < min) {
                    min = merged[j];
                    merged[j] = merged[i];
                    merged[i] = min;
                }
            }
        }
        for (i=0; i<n3; i++) {
            System.out.print(merged[i]+" ");
```

Insert Element in an Array

Write a Java program to insert a new element in the particular position. (Create array of size - n+1)

Sample I/O:

6 - n

12 23 25 28 45 68 - elements

3 - position

15 - new element

Output:

12 23 15 25 28 45 68

Font Size: 18 | Language | Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int[] arr = new int[n+1];
        int i;
        for (i=0; i<n; i++) {
            arr[i] = in.nextInt();
        }
        int pos = in.nextInt();
        int ele = in.nextInt();
        i=n;
        while(i>(pos-1)) {
            arr[i] = arr[i-1];
            i--;
        }
        arr[pos-1] = ele;
        for (i=0; i<(n+1); i++) {
            System.out.print(arr[i]+" ");
        }
    }
}
```

Shift Zeroes to beginning

Write a java program to push the zeroes to the beginning of the array.

Sample I/O:

11

12 25 0 0 2 0 6 8 0 18 0

0 0 0 0 0 12 25 2 6 8 18

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        int[] arr = new int[n];
        int i; int count=0 ;
        for (i=0; i<n; i++) {
            arr[i] = in.nextInt();
            if (arr[i]==0) {
                count += 1;
            }
        }
        int[] shift = new int[n];
        for (i=0; i<count; i++) {
            shift[i] = 0;
        }
        for (i=0; i<n; i++) {
        }
        int j=count;
        for (i=0; i<n; i++) {
            if (arr[i] != 0) {
                shift[j] = arr[i];
                j++;
            }
        }
        for (i=0; i<n; i++) {
            System.out.print(shift[i]+" ");
        }
    }
}
```

IPS 6 2D Array

Saturday, August 27, 2022 10:52 PM

Matrix Addition

Write a java program to add two matrices

From <https://www.vpropel.in/code-test/attend-code-test/1605774/22754/0/26664/>

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int m = in.nextInt();
        int n = in.nextInt();
        int i; int j;
        int[][] mat1 = new int[m][n];
        int[][] mat2 = new int[m][n];
        for (i=0; i<m; i++) {
            for (j=0; j<m; j++) {
                mat1[i][j] = in.nextInt();
            }
        }
        for (i=0; i<m; i++) {
            for (j=0; j<m; j++) {
                mat2[i][j] = in.nextInt();
            }
        }
        int[][] sum = new int[m][n];
        for (i=0; i<m; i++) {
            for (j=0; j<m; j++) {
                sum[i][j] = mat1[i][j]+mat2[i][j];
            }
        }
        for (i=0; i<m; i++) {
            for (j=0; j<m; j++) {
                if (j==(m-1)) {
                  System.out.print(sum[i][j]);
                }
                else {
                    System.out.print(sum[i][j]+" ");
                }
            }
            System.out.println();
        }
    }
}
```

Matrix Subtraction

Write a java program to print difference of two m X n matrices

From <https://www.vpropel.in/code-test/attend-code-test/1605774/22755/0/26664/>

```java
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int m = in.nextInt();
        int n = in.nextInt();
        int[][] mat1 = new int[m][n];
        int[][] mat2 = new int[m][n];
        int i; int j;
        for (i=0; i<m; i++) {
            for (j=0; j<n; j++) {
                mat1[i][j] = in.nextInt();
            }
        }
        for (i=0; i<m; i++) {
            for (j=0; j<n; j++) {
                mat2[i][j] = in.nextInt();
            }
        }
        int[][] diff = new int[m][n];
        for (i=0; i<m; i++) {
            for (j=0; j<n; j++) {
                diff[i][j] = mat1[i][j]-mat2[i][j];
            }
        }
        for (i=0; i<m; i++) {
            for (j=0; j<n; j++) {
                if (j==n-1) {
                    System.out.print(diff[i][j]);
                }
                else {
                    System.out.print(diff[i][j]+" ");
                }
            }
            System.out.println();
        }
    }
}
```

Matrix Multiplication

Input
m n
A matrix of m X n size
p q
A matrix of p X q size
Output:
Product matrix of m X p size
If n and p are not equal, print matrix multiplication not possible

From <https://www.vpropel.in/code-test/attend-code-test/1605774/22756/0/26664/>

```
class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int m1 = in.nextInt();
        int n1 = in.nextInt();
        int i; int j;
        int[][] mat1 = new int[m1][n1];
        for (i=0; i<m1; i++) {
            for (j=0; j<n1; j++) {
                mat1[i][j] = in.nextInt();
            }
        }
        int m2 = in.nextInt();
        int n2 = in.nextInt();
        int[][] mat2 = new int[m2][n2];
        for (i=0; i<m2; i++) {
            for (j=0; j<n2; j++) {
                mat2[i][j] = in.nextInt();
            }
        }
        if (m1==n2) {
            int[][] product = new int[m1][n2];
            //matrix multiplication has rows of 1st matrix and colums of 2nd matrix

            for (i=0; i<m1; i++) {
                for (j=0; j<n2; j++) {
                    for (int k=0; k<n1; k++) {
                        //i and j go thru product matrixes but bc m1 = n2, need to go thru for every column in n1 too so use k
                        // matrix multiplication is [m][n]*[n][m] and then their sum
                        product[i][j] += mat1[i][k] * mat2[k][i];
                    }
                }
            }
            for (i=0; i<m1; i++) {
                for (j=0; j<n2; j++) {
                    if (j==n2-1) {
                        System.out.print(product[i][j]);
                    }
                    else {
                        System.out.print(product[i][j] + " ");
                    }
                }
                System.out.println();
            }
        }
        else {
            System.out.println("Multiplication not possible");
        }
    }
}
```

IPS 7

Saturday, September 3, 2022 11:14 AM

Sorting characters in a String

Read a string, sort the characters present in the string in alphabetical order.

Sample I/O:

apple

aelpp

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Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char arr[] = s1.toCharArray();
        Arrays.sort(arr);
        for (int i=0; i<arr.length; i++) {
            System.out.print(arr[i]);
        }
    }
}
```

Anagram or not

Check whether two strings are anagrams to each other using a java program.

Two *strings* are said to be *anagram* if we can form one *string* by arranging the characters of another *string*.

Example:

silent and listen are anagrams

triangle and integral are anagrams

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Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        String s2 = in.nextLine();
        char arr1[] = s1.toCharArray();
        char arr2[] = s2.toCharArray();
        Arrays.sort(arr1);
        Arrays.sort(arr2);
        int i; int ana=1;
        if (arr1.length != arr2.length) {
            System.out.println("Two strings are not Anagrams");
        }
        else {
            for (i=0; i<arr1.length; i++) {
                if (arr1[i] != arr2[i]) {
                    System.out.println("Two strings are not Anagrams");
                    ana =0;
                    break;
                }
            }
            if (ana==1) {
                System.out.println("Two strings are Anagrams");
            }

        }
    }
}
```

Frequency of Characters in a String

Read a string, print the number of times each character is appearing in the string using Java.

Sample I/O:

intellectual ability

i: 3

n: 1

t: 3

e: 2

l: 4

c: 1

u: 1

a: 2

b: 1

y: 1

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char arr[] = s1.toCharArray();
        int count[] = new int[arr.length];
        int i; int j;
        for (i=0; i<arr.length; i++) {
            if (arr[i] != '*' && arr[i] != ' ') {
                count[i] += 1;
            for (j=(i+1); j<arr.length; j++) {
                if (arr[i]==arr[j]) {
                    arr[j] = '*';
                    count[i] +=1;
                }
            }
            }
        }
        for (i=0; i<arr.length; i++) {
            if (arr[i] != '*' && arr[i] != ' ') {
                System.out.println(arr[i]+": "+count[i]);
            }
        }
    }
}
```

counting number of vowels, consonants, spaaces and special characters

Sample I/O:

India is my country!

Output:

Vowels: 6

Consonants:10

Special Character: 1

Spaces: 3

```
class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char arr[] = s1.toCharArray();
        char vowel[] = new char[] {'A', 'E', 'I', 'O', 'U','a','e','i','o','u'};
        char spc[] = new char[] {'~', '!', '@', '#', '$', '%', '^', '&', '*', '(', ')','+'};
        int v_count=0; int c_count=0; int space=0; int spc_count=0;
        for (int i=0; i<arr.length; i++) {
            int consta=0; int j;
            if (arr[i] == ' ') {
                space++;
            }
            else {
                for (j=0; j<vowel.length; j++) {
                    if (arr[i] == vowel[j]) {
                        v_count++;
                        consta = 1;
                    }
                }
                for (j=0; j<spc.length; j++) {
                    if (arr[i] == spc[j]) {
                        spc_count++;
                        consta = 1;
                    }
                }
                if (consta==0) {
                        c_count++;
                    }
            }
        }
        System.out.println("Vowels: "+v_count);
        System.out.println("Consonants: "+c_count);
        System.out.println("Special Character: "+spc_count);
        System.out.println("Spaces: "+space);
    }
}
```

IPS 8

Monday, September 5, 2022 11:03 AM

```
String s1="java string split method by javatpoint";
String[] words=s1.split("\\s");//splits the string based on whitespace
//using java foreach loop to print elements of string array
for(String w:words){
System.out.println(w);
}
```

To check whether words in the given string is palindrome or not

Sample I/O:

madam is teaching ada language

madam

ada

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Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        String[] words = s1.split("\\s");
        int i; int j;

        for (i=0; i<words.length; i++) {
           int same =0;
           //loop for one word alone
           char[] letter = words[i].toCharArray();
           char[] r_letter = new char[letter.length];
           int k=0;
           //make an array of letters in reverse
           for (j=letter.length-1; j>=0; j--) {
               r_letter[k]=letter[j];
               k++;
           }

           //now have 2 arrays, compare the arrays
           for (j=0; j<letter.length; j++) {
               if (r_letter[j] != letter[j]) {
                   same = 1;
                   break;
               }
           }
           if (same==0) {
               System.out.println(words[i]);
           }
        }
    }
}
```

```
1  /*Sample I/O:
2  madam is teaching ada language
3  madam
4  ada*/
5
6  import java.util.*;
7  public class Main
8  {
9      public static void main(String ... args)
10     {
11         Scanner sob=new Scanner(System.in);
12         String s1=sob.nextLine();
13         String a[]=s1.split(" ");
14         for(String s:a)
15         {
16             s=s.toLowerCase();
17             String r="";
18             for(int i=s.length()-1;i>=0;i--)
19             {
20                 r=r+s.charAt(i);
21             }
22             if(r.equals(s))
23             {
24                 System.out.println(s);
25             }
26
27         }
28     }
29 }
```

Remove word from the sentence

Sample I/O:

The VIT Quick VIT Brown Fox VIT jumps VIT over VIT the mountain.

The Quick Brown Fox jumps over the mountain.

Font Size: 18 | Language | Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        String split[] = s1.split("VIT ");
        for (int i=0; i<split.length; i++) {
            System.out.print(split[i]);
        }
    }
}
```

```java
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = "The VIT Quick VIT Brown Fox VIT jumps VIT over VIT the
            mountain.";
        s1 = s1.replace("VIT ","");
        System.out.println(s1);
    }
}
```

```
java -cp /tmp/zCET9VirHN Main
The Quick Brown Fox jumps over the mountain.
```

Move capitals to end

Sample I/O:

InDiAnGOVernmenT

ninernmenIDAGOVT

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```java
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char c1[] = s1.toCharArray();
        int i; int n = c1.length;
        for (i=0; i<n; i++) {
            if (Character.isLowerCase(c1[i])) {
                System.out.print(c1[i]);
            }
        }
        for (i=0; i<n; i++) {
            if (Character.isUpperCase(c1[i])) {
                System.out.print(c1[i]);
            }
        }
    }
}
```

```java
/*Sample I/O:
InDiAnGOVernmenT
ninernmenIDAGOVT*/

import java.util.*;
public class Main
{
    public static void main(String...args)
    {
        Scanner sob=new Scanner(System.in);
        String s=sob.next();
        String small="",big="";
        char c[]=s.toCharArray();
        for(int i=0;i<s.length();i++)
        {
            if(c[i]>=65 && c[i]<=90)
            {
                big=big+c[i];
            }
            else
            {
                small=small+c[i];
            }
        }
        System.out.print(small+big);
    }
}
```

- Character.isUpperCase()
- Character.isLowerCase()

Toggle String

Sample I/O:

Queen ViCToRiA

qUEEN vIctOrIa

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char c1[] = s1.toCharArray();
        String k;
        for (int i=0; i<c1.length; i++) {
            k = Character.toString(c1[i]);
            if (Character.isUpperCase(c1[i])) {
                k= k.toLowerCase();
                System.out.print(k);
            }
            else {
                k= k.toUpperCase();
                System.out.print(k);
            }
        }
    }
}
```

The default value of a char data type **'\u0000'**. The character values are enclosed with a single quote. Its default size is 2 bytes.

https://www.javatpoint.com › character-array-in-java

Character Array in Java - Javatpoint

Java String **toUpperCase() Method**

The toUpperCase() method converts a string to upper case letters. Note: The toLowerCase() method converts a string to lower case letters.

Convert char to String Java

CharToStringJava.java

```
package com.journaldev.string;

public class CharToStringJava {

    public static void main(String[] args) {

        // char to string
        char c = 'a';
        String str = String.valueOf(c);

        // using Character class
        str = Character.toString(c);

        // another way
        str = new Character(c).toString();
        // string concatenation - worst performance
        str = "" + c;

        // char array to string
        char[] ca = { 'a', 'b', 'c' };
        str = String.valueOf(ca);
        // another way
        str = new String(ca);

    }
```

Splitting words from a sentence

(There may be multiple spaces in a word)

Sample I/O:

India is my country

India

is

my

country

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        String[] s2 = s1.split("\\s+");
        for (String w:s2) {
            if (w!= " ") {
                System.out.println(w);
            }
        }
    }
}
```

Signature

There are two signature for split() method in java string.

> **public** String split(String regex)
> and,
> **public** String split(String regex, **int** limit)

Parameter

regex : regular expression to be applied on string.

limit : limit for the number of strings in array. If it is zero, it will returns all the strings matching regex.

You can use `Quantifiers` to specify the number of spaces you want to split on: -

```
    `+` - Represents 1 or more
    `*` - Represents 0 or more
    `?` - Represents 0 or 1
`{n,m}` - Represents n to m
```

So, `\\s+` will split your string on `one or more` spaces

```
String[] words = yourString.split("\\s+");
```

Also, if you want to specify some specific numbers you can give your range between `{}`:

```
yourString.split("\\s{3,6}"); // Split String on 3 to 6 spaces
```

Palindrome Check

Sample I/O:

Madam

Palindrome

India

Not Palindrome

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char[] letter = s1.toCharArray();
        char[] r_letter = new char[letter.length];
        int i; int j=0;
        int same=0;
        for (i=letter.length-1; i>-1; i--) {
            r_letter[j] = letter[i];
            j++;
        }
        for (i=0; i<letter.length; i++) {
            if (r_letter[i]!=letter[i]) {
                same = 1;
                break;
            }
        }
        if (same==0) {
            System.out.println("Palindrome");
        }
        else {
            System.out.println("Not Palindrome");
        }
    }
}
```

Sorting set of Strings

Read n - number of strings, set of 'n' strings. Display the sorted list of strings using Java.

Sample I/O:

5

India

america

japan

mexico

switzerland

Output:

america

india

japan

mexico

switzerland

Font Size: 18

Language

Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int n = in.nextInt();
        in.nextLine();
        int i;
        String[] a = new String[n];
        for (i=0; i<n; i++) {
            a[i] = in.nextLine();
        }
        Arrays.sort(a);
        for (i=0; i<n; i++) {
            System.out.println(a[i]);
        }
    }
}
```

```
// Read the integer
int var = sc.nextInt();

// Read the leftover new line
sc.nextLine();
```

```
//defining an array of type string
String[] countries = {"Wood apple", "Blackberry", "Date", "Naseb
//sorts string array in alphabetical order or ascending order
Arrays.sort(countries);
//prints the sorted string array in ascending order
System.out.println(Arrays.toString(countries));
```

Count Special Characters

Count the special characters in the given string (excluding spaces) using java program

Sample I/O:

India is&&& my*** Country!!!

9

Font Size 18 | Language | Editor Theme: Select a Theme

Your code has Passed Execution!

```
import java.util.Scanner;
import java.util.Arrays;

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String s1 = in.nextLine();
        char[] c1 = s1.toCharArray();
        int i; int count=0;
        for (i=0; i<c1.length; i++) {
            if (Character.isLetter(c1[i])==false) {
                if (Character.isWhitespace(c1[i])==false) {
                    count++;
                }
            }
        }
        System.out.println(count);
    }
```

```
String myStr1 = "Hello";
String myStr2 = "Hello";
String myStr3 = "Another String";
System.out.println(myStr1.equals(myStr2)); // Returns true because they are equal
System.out.println(myStr1.equals(myStr3)); // false
```

Try it Yourself »

Definition and Usage

The `equals()` method compares two strings, and returns true if the strings are equal, and false if not.

Tip: Use the compareTo() method to compare two strings lexicographically.

```
System.out.println(myStr1.compareTo(myStr2));// Returns 0 because they
are equal
```

Tip: Use compareToIgnoreCase() to compare two strings lexicographyically, ignoring lower case and upper case differences.

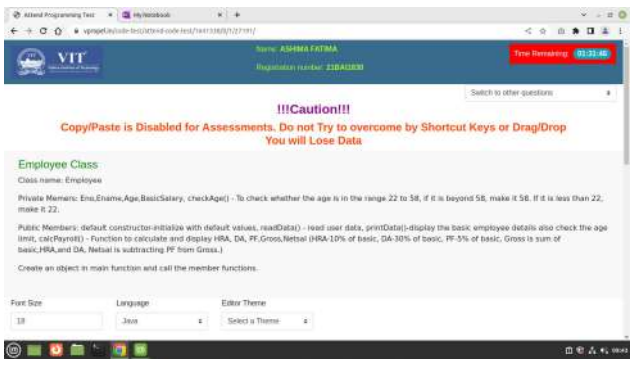
Tip: Use the equals() method to compare two strings without consideration of Unicode values.

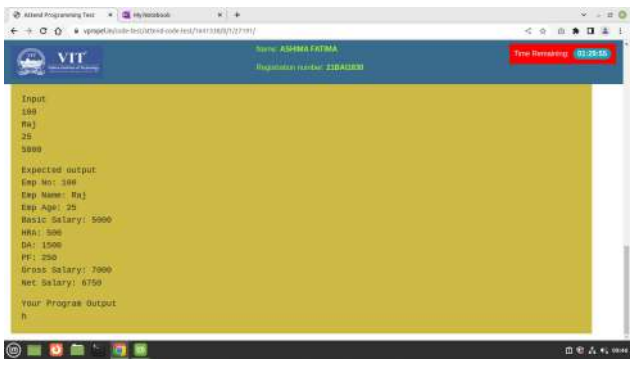
Returns:	An `int` value: 0 if the string is equal to the other string. < 0 if the string is lexicographically less than the other string > 0 if the string is lexicographically greater than the other string (more characters)

From <https://www.w3schools.com/java/ref_string_compareto.asp>

IPS 9

Wednesday, September 21, 2022 8:44 AM





- Use default constructor

https://www.javatpoint.com/java-employee-details-program

- Have to use 2 diff. Methods to get a value and to set a value

https://www.thejavaprogrammer.com/java-program-for-employee-details-using-class-and-object/

Input

100
Raj
25
5000
Expected output

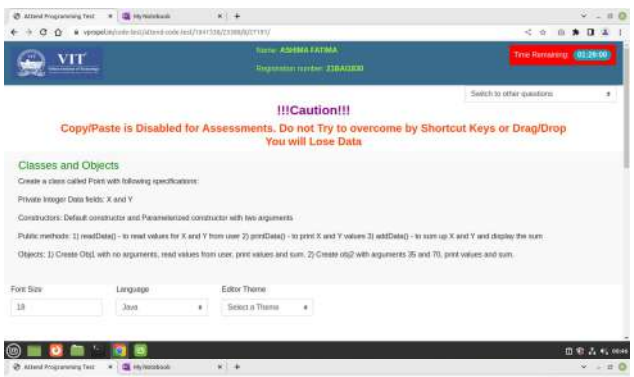
Emp No: 100
Emp Name: Raj
Emp Age: 25
Basic Salary: 5000
HRA: 500
DA: 1500
PF: 250
Gross Salary: 7000
Net Salary: 6750

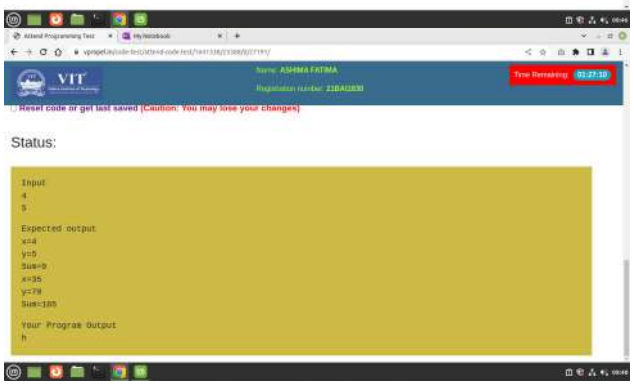
```
import java.util.Scanner;

class Employee {
   private int Eno;
   private String Ename;
   private int Age;
   private double Salary;
   private double HDR;
   private double DA;
   private double PF;
   private double G_salary;
   private double N_salary;

   public void readData(int Eno, String Ename, int Age, double Salary) {
      this.Eno = Eno;
      this.Ename = Ename;
      this.Age = Age;
      this.Salary = Salary;
   }
   private int checkAge(int Age) {
      if (Age>58) {
         Age = 58;
      }
      else if (Age<22) {
         Age = 22;
      }
      return Age;
   }
   public void calcPayroll(double Salary) {
      HDR = 0.1*Salary;
      DA = 0.3*Salary;
      PF = 0.05*Salary;
      G_salary = Salary+HDR+DA;
      N_salary = G_salary - PF;
   }
   public void printData() {
      checkAge(Age);
      calcPayroll(Salary);
      System.out.println("Emp No: "+Eno);
      System.out.println("\nEmp Name: "+Ename);
      System.out.println("\nEmp Age: "+Age);
      int iSalary = (int)Salary;
      int iHDR = (int)HDR;
      int iDA = (int)DA;
      int iPF = (int)PF;
      int iG_salary = (int)G_salary;
      int iN_salary = (int)N_salary;
      System.out.println("\nBasic Salary: "+iSalary);
      System.out.println("\nHDR: "+iHDR);
      System.out.println("\nDA: "+iDA);
      System.out.println("\nPF: "+iPF);
      System.out.println("\nGross Salary: "+iG_salary);
      System.out.println("\nNet Salary: "+iN_salary);
   }
}

class Main{
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      Employee Obj = new Employee();
      int no = in.nextInt();
      in.nextLine();
      String name = in.nextLine();
      int age = in.nextInt();
      double sal = in.nextDouble();
      Obj.readData(no, name, age, sal);
      Obj.printData();
   }
}
```



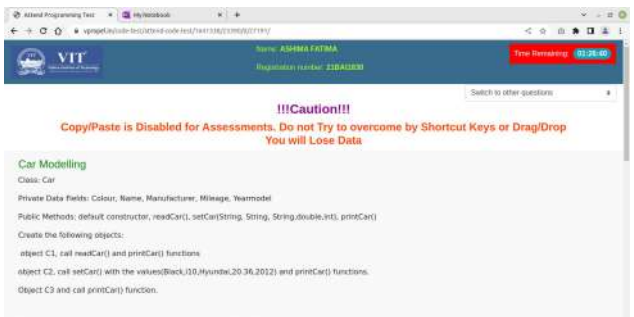



```
import java.util.Scanner;

class Point {
   private int x;
   private int y;
   private int sum;
   //default constructor means just initialise the given variables
   Point () {
      x=0; y=0;
   }
   public void readData() {
      Scanner in = new Scanner(System.in);
      x = in.nextInt();
      y = in.nextInt();
   }
   public void setData(int x, int y) {
      this.x = x;
      this.y = y;
   }
   public int addData() {
      sum = x+y;
      return sum;
   }
   public void printData() {
      System.out.print("\nx="+x);
      System.out.print("\ny="+y);
      System.out.println("\nsum="+sum);
   }
}

class Main {
   public static void main(String[] args) {
         Point Obj1 = new Point();
         Obj1.readData();
         Obj1.addData();
         Obj1.printData();
         Point Obj2 = new Point();
         Obj2.setData(35,70);
         Obj2.addData();
         Obj2.printData();
   }
}
```

https://www.includehelp.com/java-programs/java-program-to-find-area-and-perimeter-of-circle-using-class.aspx



Input

Blue
Swift
Maruti
23.76
2020

Expected output

```
import java.util.Scanner;

class Car {
   private String color;
   private String name;
   private String manuf;
   private double mileage;
   private int yearModel;

   Car() {
      color = "*";
      name = "*";
      manuf = "*";
```

IPS 10

Monday, September 26, 2022 9:55 AM

Dynamic Polymorphism

Create three classes *Person*, *Professor* and *Student*. The class *Person* should have data members name and age. The classes *Professor* and *Student* should inherit from the class *Person*.

The class *Professor* should have two integer members: *publications* and Empid. There will be two instance methods: *getdata* and *putdata*. The function *getdata* should get the input from the user: the *name*, *age* and *publications* of the professor. The function *putdata* should print the *name*, *age*, *publications* and the Empid of the professor.

The class *Student* should have two data fields: *marks*, which is an array of size 3 and studID. It has two instance methods: *getdata* and *putdata*. The function *getdata* should get the input from the user: the *name*, *age*, and the *marks* of the student in 3 subjects. The function *putdata* should print the *name*, *age*, *sum* of the marks and the studID of the student.

For each object being created of the *Professor* or the *Student* class, sequential id's should be assigned to them starting from 1 .

Solve this problem using dynamic polymorphism, constructors and static variables. Create two objects each for both Professor Class and Student Class.

Sample Input:

Walter 50 98

Jessie 25 15

White 18 89 96 96

Pinkman 19 54 52 45

Sample Output:

Name:Walter

Age:50

Publications:98

Professor ID:1

Name:Jessie

Age:25

Publications:15

Professor ID:2

Name:White

Age:18

Mark1:89

Mark2:96

Mark3:96

Student ID:1

Name:Pinkman

Age:19

Mark1:54

Mark2:52

Mark3:45

Student ID:2

```
Input
ABC 25 100
Sergio 30 53
Allen 18 23 25 26
Andrew 19 45 45 49

Expected output
ABC 25 100 ID:1
Sergio 30 53 ID:2
Allen 18 23 25 26 ID:1
Andrew 19 45 45 49 ID:2

Your Program Output
h
```

```
Input
Walter 50 98
Jessie 25 15
White 18 89 96 96
Pinkman 19 54 52 45

Expected output
Walter 50 98 ID:1
Jessie 25 15 ID:2
White 18 89 96 96 ID:1
Pinkman 19 54 52 45 ID:2

Your Program Output
ABC 25 100 ID:1
Sergio 30 53 ID:2
Allen 18 23 25 26 ID:1
Andrew 19 45 45 49 ID:2
```

```
import java.util.*;

class Person {
   public String name;
   public int age;

   Person() {
      name = "*";
      age = 0;
   }
}

class Proffesor extends Person{
   public int publications;
   static int Empid=0;

   Proffesor() {
      publications = 0;
      Empid++;
   }

   public void getdata(Scanner in) {
      name = in.next();
      age = in.nextInt();
      publications = in.nextInt();
   }
   public void putdata() {
      System.out.println(name+" "+age+" "+publications+" ID:"+Empid);
   }
}

class Student extends Person{
   public int[] marks = new int[3];
   static int stuID=0;
   static int i=0;

   Student() {
      for (i=0; i<3; i++) {
         marks[i]=0;
      }
      stuID++;
   }

   public void getdata(Scanner in) {
      name = in.next();
      age = in.nextInt();
      for (i=0; i<3; i++) {
         marks[i] = in.nextInt();
      }
   }
   public void putdata() {
      System.out.print(name+" "+age);
      for (i=0; i<3; i++) {
         System.out.print(" "+marks[i]);
      }
      System.out.print(" ID:"+stuID+"\n");
   }
}

public class Main {
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      Proffesor prof1 = new Proffesor();
      prof1.getdata(in);
      prof1.putdata();
      Proffesor prof2 = new Proffesor();
      prof2.getdata(in);
      prof2.putdata();
      Student stu1 = new Student();
      stu1.getdata(in);
      stu1.putdata();
      Student stu2 = new Student();
      stu2.getdata(in);
      stu2.putdata();
   }
}
```

```
import java.util.Scanner;
class Person{
public String name;
public int age;
Person(){
name = "*";
age = 0;
}
public void getdata(Scanner sc){
name = sc.next();
age = sc.nextInt();
}
public void putdata(){
System.out.println(name + " " + age);
}
}
class Professor extends Person{
public int publications;
static int Empid = 0;
Professor(){
publications = 0;
Empid++;
}
public void getdata(Scanner sc){
name = sc.next();
age = sc.nextInt();
publications = sc.nextInt();
}
public void putdata(){
System.out.println(name + " " + age + " " + publications + " ID:" + Empid);
}
}
class Student extends Person{
int [] m = new int[3];
static int studID = 0;
Student(){
studID++;
}
public void getdata(Scanner sc){
name = sc.next();
age = sc.nextInt();
for (int i = 0; i < 3; i++)
m[i] = sc.nextInt();
}
public void putdata(){
System.out.println(name + " " + age + " " + m[0] + " " + m[1] + " " + m[2] + " ID:" + studID);
}
}
public class Main{
public static void main(String [] args){
Scanner sc = new Scanner(System.in);
Person p1 = new Professor();
p1.getdata(sc);
p1.putdata();
p1 = new Professor();
p1.getdata(sc);
p1.putdata();
p1 = new Student();
p1.getdata(sc);
p1.putdata();
p1 = new Student();
p1.getdata(sc);
p1.putdata();
}
```

Interface Demo

Create an Interface named Shape with common properties like

color -String, border-int, void fillColor() , void drawBorder(), void calcArea()

The colour of all shapes is Black and Border thickness of all shapes is 2.

Create the following classes which implements the Shape Interface. Include additional methods /constructors in the class to read the required parameters.

Circle

Square

Cylinder - Additionally calculate Volume also.

```
Input
5
4
5
7

Expected output
Colour of Circle is Black
Border of Circle is 2
radius = 5
Area = 78.5
Colour of Square is Black
Border of Square is 2
Side = 4
Area = 16
Colour of Cylinder is Black
Border of Cylinder is 2
radius = 5
height = 7
Total Surface Area of Cylinder = 376.8
Volume of Cylinder = 549.5
```

```
import java.util.*;

interface Shape {
   String shape;
   String color;
   int border;
   int Area;

   Shape() {
      shape = "*";
      color = "*";
      border = 0;
      Area = 0;
   }

   public void getShape(String shape) {
      this.shape = shape;
   }
   public void fillColor() {
      color = "Black";
      System.out.println("Colour of "+shape+" is "+color);
   }
   public void drawBorder() {
      border = 2;
   }
   public void calcArea(String shape) {
      if (shape.equals("Circle")) {
         public void circle(int radius)
      }
      else if (shape.equals("Square")) {

      }
      else if (shape.equals('Cylinder')) {

      }
   }
}

class Circle implements Shape {
   String shape
   int radius;

   Circle() {
      radius = 0;
   }
}

class Square implements Shape {

}

class Cylinder implements Shape {

}

class Main {
   public static void main(String[] args) {
      Scanner in = new Scanner(System.in);

   }
}
```

IPS&PAT5 Exception

Sunday, November 13, 2022 8:37 PM

```java
import java.util.*;
import java.io.*;

class InvalidValue extends Exception {
    InvalidValue(String str) {
        super(str);
    }
}

class Main {
    public static void main(String args[]) {
        try {
            Scanner in = new Scanner(System.in);
            int value = in.nextInt();
            if (value<30) {
                throw new InvalidValue("Value too small");
            }
            else {
                System.out.println("Value: "+value);
            }
        }
        catch(InvalidValue e) {
            System.out.println(e);
        }
        finally {
            System.out.println("VIT University");
        }
    }
}
```

```
29
InvalidValue: Value too small
VIT University
```

Main.java

```java
import java.util.*;
import java.io.*;

class Main {
    public static void main(String args[]) {
        try {
            Scanner in = new Scanner(System.in);
            int value = in.nextInt();
            if (value<30) {
                throw new Exception("Value too small");
            }
            else {
                System.out.println("Value: "+value);
            }
        }
        catch(Exception e) {
            System.out.println(e.getMessage());
        }
        finally {
            System.out.println("VIT University");
        }
    }
}
```

```
29
Value too small
VIT University
```

```java
/*Read an integer from the user and print it. If any input other than integer is entered,raise an exception to user saying
"Invalid Input, Integer required" and continue to read from the user until he enters a valid integer.*/

import java.util.*;
import java.io.*;

class Main {
    public static void main(String args[]) {
        boolean valid = false;
        while (!valid) {
            try {
                Scanner in = new Scanner(System.in);
                int value = in.nextInt();
                valid = true;
                System.out.println(value);
            }
            catch(InputMismatchException e) {
                System.out.println(e+": Invalid Input, Integer required");
            }
        }
    }
}
```

Main.java

```java
/*Define a class to store student's register number, name, and an integer array to store five subject's marks.

Define methods to read, print the student's details. Read method must throw "InvalidMarksException", if the marks are
less than 0 or greater than 30.*/

import java.util.*;
import java.io.*;

class InvalidMarksException extends Exception {
    InvalidMarksException(String smarks) {
        super(smarks+" is less than 0 or greater than 30");
    }
}

class Student {
    private String no;
    private String name;
    private int[] marks = new int[5];
    int i;

    Student() {
        no ="*";
        name = "*";
        for (i=0; i<5; i++) {
            marks[i] = 0;
        }
    }

    void getData(Scanner in) throws InvalidMarksException{
        no = in.next();
        name = in.next();
        for (i=0; i<5; i++) {
            marks[i] = in.nextInt();
            if (marks[i]<0 || marks[i]>30) {
                String smarks = String.valueOf(marks[i]);
                throw new InvalidMarksException(smarks);
            }
        }
    }

    void printData() {
        System.out.println("Registration no.: "+no);
        System.out.println("Name: "+name);
        for (i=0; i<5; i++) {
            System.out.println("Mark"+i+": "+marks[i]);
        }
    }
}

class Main {
    public static void main(String args[]) {
        Scanner in = new Scanner(System.in);
        Student s1 = new Student();
        try {
            s1.getData(in);
        }
        catch(InvalidMarksException e) {
            System.out.println(e);
        }
        finally {
            s1.printData();
        }
    }
}
```

input

```
InvalidMarksException: 32 is less than 0 or greater than 30
Registration no.: bai
Name: ashima
Mark0: 24
Mark1: 32
Mark2: 0
Mark3: 0
Mark4: 0
```

Main.java

```java
/*XYZ Shop announces exclusive offer sale for three products 1. Shoes 2. Perfume 3. Chocolate.
Implement readData(Scanner) -  to read the Product name, qty and price from each user, and calculate the amount,
printData()- print the bill. The customer is restricted to choose the products into shopping cart based on the following conditions.
1) Customer can't buy more than one Shoe. 2) Bill amount can't exceed 1500 while buying Perfumes
3) Customer can't buymore than 20 Chocalates.Create InvalidChoiceException class.
Raise InvalidChoiceExcepion if the user is voilating the restrictions while choosing products.
(Assume customer buys only one product at a time) Hint: Raise all the exceptions inside readData() method*/

import java.util.*;
import java.io.*;

class InvalidChoiceException extends Exception {
    InvalidChoiceException(String msg) {
        super(msg);
    }

}

class Shop {
    private String name;
    private int qty;
    private double price;
    private double bill;
    int i;

    Shop() {
        name ="*";
        qty = 0;
        price = 0.0;
        bill =0.0;
    }

    void readData(Scanner in) throws InvalidChoiceException{
        name = in.next();
        qty = in.nextInt();
        if (name.equals("Shoe") && qty>1) {
            throw new InvalidChoiceException("Customer can't buy more than one Shoe");
        }
        else if (name.equals("Chocolates") && qty>20) {
            throw new InvalidChoiceException("Bill amount can't exceed 1500 while buying Perfumes");
        }
        else {
            price = in.nextDouble();
            bill = (qty*price);
            if (name.equals("Perfume") && bill>1500) {
                throw new InvalidChoiceException("Customer can't buymore than 20 Chocalates");
            }
        }
    }

    void printData() {
        System.out.println("Bill: "+bill);
    }
}

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        try {
            Shop s1 = new Shop();
            s1.readData(in);
        }
        catch(InvalidChoiceException e) {
            System.out.println(e);
        }
    }
}
```

Generic IPS13

Tuesday, October 11, 2022 10:58 PM

https://www.geeksforgeeks.org/how-to-implement-stack-in-java-using-array-and-generics/


Generic Queue


Generic Stack

Generic Sort

Implement a generic method to sort an array of n generic elements in ascending order.

Sample Input

5

20 14 65 78 25

6

12.14 21.10 245.24 8.2 7.2 69.2

4

Son Hen Den Que

Sample Output:

14 20 25 65 78

7.2 8.2 12.14 21.10 69.2 245.24

Den Hen Que Son

From <https://www.vpropel.in/code-test/attend-code-test/1692446/24313/0/27978/>

10/12/22, 12:20 AM Attend Programming Test

Switch to other questions

!!!Caution!!!

Copy/Paste is Disabled for Assessments. Do not Try to overcome by Shortcut Keys or Drag/Drop
You will Lose Data

Generic Queue using ArrayList

Implement a Generic Queue using ArrayList

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Your code has Pasaed Execution!

```
import java.util.*;
import java.io.*;

class Queue<I> {
    private int front;
    private int rear;
    ArrayList<I> queue;

    Queue() {
        front =-1;
        rear = -1;
        this.queue = new ArrayList<>();
    }

    void enqueue(I item) {
        if (front==-1) {
            front++;
        }
        rear++;
        queue.add(item);
    }

    void dequeue() {
        if (front!= -1 && rear != -1) {
            System.out.println("Queue is
deleted: "+queue.get(front));
            front++;
        }
    }

    void display() {
        if (front!= -1 && rear != -1) {
            int i=front;
            while (i!=rear+1) {
                System.out.print("
"+queue.get(i));
                i++;
            }
            System.out.print("\n");
        }
    }
}

class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int i;
```

https://www.vpropel.in/code-test/attend-code-test/1692446/24325/0/27978/ 1/2

```
        Queue<Integer> q1 = new Queue<>();

        for (i=0; i<6; i++) {
            q1.enqueue(in.nextInt());
        }
        System.out.print("Queue Contents:");
        q1.display();
        System.out.println("Queue insert done");
        q1.enqueue(in.nextInt());
        System.out.print("Queue is:");
        q1.display();
        q1.dequeue();
        q1.dequeue();
        System.out.print("Queue is:");
        q1.display();
        Queue<String> q2 = new Queue<>();
        for (i=0; i<6; i++) {
            q2.enqueue(in.next());
        }
        System.out.print("Queue is:");
        q2.display();
        System.out.println("Queue insert done");
        q2.enqueue(in.next());
        System.out.print("Queue is:");
        q2.display();
        q2.dequeue();
        q2.dequeue();
        System.out.print("Queue is:");
        q2.display();
        Queue<Double> q3 = new Queue<>();
        for (i=0; i<6; i++) {
            q3.enqueue(in.nextDouble());
        }
        System.out.print("Queue is:");
        q3.display();
        System.out.println("Queue insert done");
        q3.enqueue(in.nextDouble());
        System.out.print("Queue is:");
        q3.display();
        q3.dequeue();
        q3.dequeue();
        System.out.print("Queue is:");
        q3.display();
    }
}
```

Save Pause Test

Submit Code

Status:

IPS13 Generic...

Switch to other questions

!!!Caution!!!

Copy/Paste is Disabled for Assessments. Do not Try to overcome by Shortcut Keys or Drag/Drop
You will Lose Data

Implementation of Generic Stack using ArrayList

Create a GenericStack that can hold 1) Integers 2) Doubles 3) Strings. Implement push(element), pop(), peek(), isEmpty(), size() methods to operate the stack. Call methods in sequence as per the test case.

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Your code has Passed Execution!

```
import java.util.*;
import java.io.*;

class Stack <I>{
    private int top;
    ArrayList<I> stackList;
    Stack () {
        int top =-1;
        this.stackList =  new ArrayList<I>();

    }

    void push(I item) {
        top++;
        stackList.add(item);
    }

    void pop() {
        top--;
        System.out.println("Stack is Popped:
"+stackList.get(top));
        stackList.remove(top);
    }

    void display() {
        int i=0;
        System.out.print("Stack Contents:");
        while (i!=top) {
            System.out.print("
"+stackList.get(i));
            i++;
        }
        System.out.print("\n");
    }
 }


class Main {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int i;
        Stack<Integer> s1 = new Stack<>();
        for (i=0; i<6; i++) {
            s1.push(in.nextInt());
        }
        s1.display();
```

```
        System.out.println("Stack Push done");

        s1.push(in.nextInt());
        s1.display();
        s1.pop();
        s1.pop();
        s1.display();
        Stack<String> s2 = new Stack<>();
        for (i=0; i<6; i++) {
            s2.push(in.next());
        }
        s2.display();
        System.out.println("Stack Push done");
        s2.push(in.next());
        s2.display();
        s2.pop();
        s2.pop();
        s2.display();
        Stack<Double> s3 = new Stack<>();
        for (i=0; i<6; i++) {
            s3.push(in.nextDouble());
        }
        s3.display();
        System.out.println("Stack Push done");
        s3.push(in.nextDouble());
        s3.display();
        s3.pop();
        s3.pop();
        s3.display();

    }
}
```

Save Pause Test

Submit Code

Status:

Implement a generic method to sort an array of n generic elements in ascending order.
Sample Input
5
20 14 65 78 25
6
12.14 21.10 245.24 8.2 7.2 69.2
4
Son Hen Den Que
Sample Output
14 20 25 65 78
7.2 8.2 12.14 21.10 69.2 245.24
Den Hen Que Son
**********/

```
import java.util.*;
public class GENERICSort{
public static <E extends Comparable<? super E>> void sort(E [] a){
for (int i = 0; i < a.length;i++){
for (int j = 0; j < a.length - i - 1;j++){
if (a[j+1].compareTo(a[j])<0){
E temp = a[j];
a[j] = a[j + 1];
a[j + 1] = temp;
}
}
}
}
public static <E> void print(E [] list){
for (int i = 0; i < list.length; i++){
if (i != list.length - 1)
System.out.print(list[i] + " ");
else
System.out.println(list[i]);
}
}
public static void main(String [] args){
Scanner sc = new Scanner(System.in);
int n = sc.nextInt();
Integer [] iObj = new Integer[n];
for (int i = 0; i<n;i++){
iObj[i] = sc.nextInt();
}
sort(iObj);
print(iObj);
n = sc.nextInt();
Double [] dObj = new Double[n];
for (int i = 0; i<n;i++){
dObj[i] = sc.nextDouble();
}
sort(dObj);
print(dObj);
n = sc.nextInt();
String [] sObj = new String[n];
for (int i = 0; i<n;i++){
sObj[i] = sc.next();
}
sort(sObj);
print(sObj);
}
}
```