Java

Q2

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}

Q. 2. Write a program to input and store roll numbers, names and marks in 3 subjects of n number students in five single dimensional array and display the remark based on average marks as given below: (the maximum marks in the subject are 100)

average marks = Total Marks / 3

Average marks	Remarks
85-100	EXCELLENT
75-84	DISTINCTION
60-74	FIRST CLASS
40-59	PASS
Less than 40	POOR

A I [ICSE 2015]

```
import java.util.*;
class prog1D
{
public static void main(String args[])
{ Scanner sc = new Scanner(System.in); int n = sc.nextInt();
int roll_number[] = new int[n];
String names[] = new String[n];
int sub1[] = new sub1[n];
int sub2[] = new sub2[n];
int sub3[] = new sub3[n]; double avg[] = new double[n];
for (int i=0 ; i<n; i++)
{
System.out.println("Enter rollnumber of "+(i+1)+"Student");
roll_number[i] = sc.nextInt();
System.out.println("Enter names of "+(i+1)+"Student");
names[i] = sc.nextInt();
System.out.println("Enter marks of"+(i+1)+" Student");
sub1[i] = sc.nextInt();
System.out.println("Enter marks of "+(i+1)+"Student");
sub2[i] = sc.nextInt();
S. O. P
sub3[i]
avg[i]=(sub1[i] + sub2[i] + sub3[i])/3 ;
```

```
if (avg[i] >= 85 && avg[i] <= 100)
{
  System.out.println("Excelent");
}
else if( avg[i]>=75 && avg[i] <= 84)
{
   s.o.p("Distinction");
}
else if (avg[i]>=60 && avg[i]<=74 )
{
  S.O.pln("First Class");
}
else if (avg[i]>=40 && avg[i]<=59)
{
  S.O.pln("Pass");
}
else {s.o.pln("fail");}

}

}
```

}

Q. 6. Write a program to store 6 element in an array P, and 4 elements in an array Q and produce a third array R, containing all elements of array P and Q. Display the resultant array. Example:

Input / Output :-

P[ ]	Q[ ]	R[ ]
4	19	4
6	23	6
1	7	1
2	8	2
3		3
10		10
		19
		23
		7
		8

[ICSE 2010]

Main.java

Share | Run | Output

```
// Online Java Compiler
// Use this editor to write, compile and run your Java code online
import java.util.*;
class HelloWorld {
    public static void main(String[] args) {

        int a[] = new int[4];
        int b[] = new int[6];
        int c[] = new int[a.length + b.length];
           Scanner sc = new Scanner(System.in);
        for(int i = 0 ; i<4;i++)
        {
            System.out.println("Enter value"+""+ (i+1));
            a[i] = sc.nextInt();
        }
        for(int i=0;i<6;i++)
        {
            System.out.println("Enter value for 2nd"+""+ (i+1));
            b[i]=sc.nextInt();
        }
        for(int i = 0 ; i<a.length;i++)
        {
            c[i] = a[i];

        }
          for(int i = 0 ; i< b.length ;i++)
          {
              c[a.length+i] = b[i];

          }
           for(int i = 0 ; i<(a.length+b.length) ;i++)
           {
                System.out.println(c[i]);
           }

    }
}
```

```
java -cp /tmp/n59ivQ3iD5/HelloWorld
Enter value1
1
Enter value2
2
Enter value3
3
Enter value4
4
Enter value for 2nd1
5
Enter value for 2nd2
6
Enter value for 2nd3
7
Enter value for 2nd4
8
Enter value for 2nd5
9
Enter value for 2nd6
10
1
2
3
4
5
6
7
8
9
10

=== Code Execution Successful ===
```

}

Q. 4. Write a program to accept the names of 10 cities in a single dimension string array and their STD (Subscribers Trunk Dialing) codes in another single dimension integer array. Search for a name of a city input by the user in the list. If found, display "Search Successful" and print the name of the city along with its STD code, or else display the message "Search Unsuccessful, No such city in the list'. [ICSE 2012]

Ans.

```
import java.util.Scanner;
public class Cities
{
    public static void main(String args[])
    {
        Scanner scanner = new Scanner(System.
        in);
        String cities [10];
        int std [] = new int[10];
        for (int i = 0; i < 10; i++)
        {
            System.out.print("Enter city: ");
            cities[i] = scanner.next();
            System.out.print("Enter std code: ");
            std[i] = scanner.nextInt();
        }
        System.out.print("Enter city name to
        be search: ");
        String target = scanner.next();
        boolean searchSuccessful = false;
        for (int i = 0; i < 10; i++)
        {
            if (cities[i].equals(target))
            {
                System.out.println("Search
                successful");
                System.out.println("City : "
                +cities[i]);
                System.out.println("STD code : "
                +std[i]);
                searchSuccessful = true;
                break;
            }
        }
        if (!searchSuccessful)
        {
            System.out.println("Search
            Unsuccessful,
            No such city in the list");
        }
    }
}
```

Selection Sort || Bubble Sort

Main.java

Share Run Output

```java
// Online Java Compiler
// Use this editor to write, compile and run your Java code online

class HelloWorld {
    public static void main(String[] args) {
      int a[] = {20,30,99,50,60,70,80};
      for (int i = 0 ; i<a.length;i++)
      {
          int min = a[i];
          int postion = i;
          for(int j=i;j<a.length;j++)
          {
              if(min > a[j])
              {
                  min = a[j];
                  postion = j;
              }
          }
          int t = a[i];
          a[i] = a[postion];
          a[postion] = t;
      }
       for (int i = 0 ; i<a.length;i++)
       {
          System.out.println(a[i]);
       }
    }
}
```

```
java -cp /tmp/nh9RHoG17s/HelloWorld
20
30
50
60
70
80
99

=== Code Execution Successful ===
```

Examiner's Comments

- Many candidates attempted the question without using array.
- Input of data was not taken inside the loop.
- Value of 'n' (number of students) not accepted.
- Arrays were declared without specifying the size.
- Calculation average was not done inside the loop.
- Accepted the average marks from the user instead of computing.
- Conditions for grading were not written correctly.

Answering Tips

- Array creation with different data types should be practised.
- Inputting and storing elements in an array should be practised on the computer.
- Use of relational operators should be explained clearly.

Q. 3. Write a program to input 10 integer elements in an array and sort them in descending order using bubble sort technique. [ICSE 2013]

Ans.

```
import java.util.Scanner;
public class BubbleSort
{
    public static void main(String[] args)
    {
        Scanner scanner = new
        Scanner(System.in);
        System.out.println("Enter ten
        numbers:");
        int[] numbers = new int[10];
        for (int i = 0; i < 10; i++)
        {
            numbers[i] = scanner.nextInt();
        }
        for (int i = 0; i < 10; i++)
        {
            for (int j = 0; j < 10 - i - 1; j++)
            {
                if (numbers[j] < numbers[j + 1])
                {
                    int temp = numbers[j];
                    numbers[j] = numbers[j + 1];
                    numbers[j + 1] = temp;
                }
            }
        }
        System.out.println("Sorted Numbers:");
        for (int i = 0; i < 10; i++)
        {
            System.out.println(numbers[i]);
        }
    }
}
```

Q. 4. Write a program to accept the names of 10 cities in a single dimension string array and their STD (Subscribers Trunk Dialing) codes in another single dimension integer array. Search for a name of a city input by the user in the list. If found, display "Search Successful" and print the name of the city along with its STD code, or else display the message "Search Unsuccessful, No such city in the list'. [ICSE 2012]

Ans.

```
import java.util.Scanner;
public class Cities
{
    public static void main(String args[])
    {
        Scanner scanner = new Scanner(System.
        in);
        String cities [10];
        int std [] = new int[10];
        for (int i = 0; i < 10; i++)
        {
            System.out.print("Enter city: ");
            cities[i] = scanner.next();
            System.out.print("Enter std code: ");
            std[i] = scanner.nextInt();
        }
        System.out.print("Enter city name to
        be search: ");
        String target = scanner.next();
        boolean searchSuccessful = false;
        for (int i = 0; i < 10; i++)
        {
            if (cities[i].equals(target))
            {
                System.out.println("Search
                successful");
                System.out.println("City : "
                +cities[i]);
                System.out.println("STD code : "
                +std[i]);
                searchSuccessful = true;
                break;
            }
        }
        if (!searchSuccessful)
```

Loop → i = 0

[20, 2, 8, 99, 64]

min = a[i]

p = i

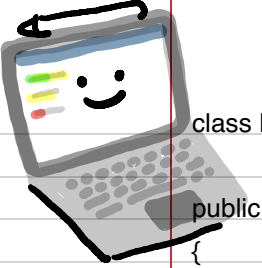
Loop → min = (j)

min = a[j]

position = j

t = a[i]

a



```
class HelloWorld { "

public static void main(String[] args)
{
int[] a = {20, 30, 99, 50, 60, 70, 80};


for (int i = 0; i < a.length; i++)
{
int min = a[i];
int position = i;

for (int j = i + 1; j < a.length; j++)
{
if (min > a[j])
{
min = a[j];
position = j;
}

}

int temp = a[i];
a[i] = a[position];
a[position] = temp;
}

for (int i = 0; i < a.length; i++)
{
System.out.println(a[i]);
}
}
\
```

min position

min: a[0];
p: 1
j: 2

min > a[j]
a[j] < min

Q. [20, 30, 40, 50];

min

import java.util.*;.'

class HelloWorld {
public static void main(String[] args) {
int[] a = {20, 30, 99, 50, 60, 70, act [ju

int a[]: 0 1 2 3 4 5 6

a[ ]

[ ]a

int min = a[0];

[2 5, 6, 8, 9, 10]
0 1

i = 1

8 < 2

for (int i = 1; i < a.length; i++) {
if (a[i] < min) {
min = a[i];

}
}

System.out.println("The smallest number is: " + min);
}
}


```
import java.util.*;

class HelloWorld {
public static void main(String[] args) {
int[] a = {20, 30, 99, 50, 60, 70, 80};


int min = a[0];


for (int i = 1; i < a.length; i++) {
if (a[i] > min) {
min = a[i];

}
}



System.out.println("The smallest number is: " + min);
}
}
```

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```
import java.util.*;

 class HelloWorld {
public static void main(String[] args) {
int[] a = {20, 30, 99, 50, 60, 70, 80};


for (int i = 0; i < a.length - 1; i++) {
for (int j = 0; j < a.length - 1 - i; j++) {
if (a[j] > a[j + 1]) {

int temp = a[j];
a[j] = a[j + 1];
a[j + 1] = temp;
}
}
}


System.out.println("Sorted array:");
for (int i = 0; i < a.length; i++) {
System.out.println(a[i]);
}
}
}
```

```
import java.util.*;

 class HelloWorld {
public static void main(String[] args) {
int[] a = {20, 30, 99, 50, 60, 70, 80};


for (int i = 0; i < a.length - 1; i++) {
for (int j = 0; j < a.length - 1 - i; j++) {
if (a[j] > a[j + 1]) {

int temp = a[j];
a[j] = a[j + 1];
a[j + 1] = temp;
}
}
}


System.out.println("Sorted array:");
for (int i = 0; i < a.length; i++) {
System.out.println(a[i]);
}
}
}
```

```
import java.util.Scanner;
class City
 {
public static void main(String[] args)
{
Scanner scanner = new Scanner(System.in);
String[] cities = new String[10];
int[] stdCodes = new int[10];
for (int i = 0; i < 10; i++)
{
System.out.println("Enter the names of 10 cities:"+ (i+1));
cities[i] = scanner.next();
System.out.println("Enter the names of std:" +(i+1));
stdCodes[i] = scanner.nextInt(); }


System.out.print("Enter the name of the city you want to search for: "); String
searchCity = scanner.next();
int postion = 0;
boolean IsFound = false;
for (int i = 0; i < 10; i++)
{
if (searchCity.equalsIgnoreCase(cities[i]))
{
postion = i; IsFound = true;
System.out.println("Search Successful");
System.out.println("City: " + cities[i] + ", STD Code: " + stdCodes[i] + ", postion : "+
postion); break;
}
}
if (!IsFound) {
System.out.println("Search Unsuccessful, No such city in the list.");
\
```

}