Name : Anupam Kunwar
Reg : 19BCE1369

Q1.

Solution:

```
import java.util.Random;
import java.util.Scanner;
public class q1{
static String[] country = {"India","Japan","Russia","China","England"};
static String[] medals = {"Gold","Silver","Bronze"};

public static void Sort(String[] s,int[] arr){
int n = arr.length;
for (int i = 0; i < n-1; i++)
for (int j = 0; j < n-i-1; j++)
if (arr[j] < arr[j+1])
{
// swap arr[j+1] and arr[j]
int temp = arr[j];
String temp1 = s[j];
arr[j] = arr[j+1];
s[j] = s[j+1];
arr[j+1] = temp;
s[j+1] = temp1;
}
}

public static int index(String s,String[] arr){
int i;
for(i=0;i<arr.length;i++){
if(arr[i].equals(s)){
return i;
}
}
return -1;
}

public static int countryTotal(String name,int[][] n){
int index = index(name,country);
int j,total;
total = 0;
for(j=0;j<3;j++){
total+=n[index][j];
}
return total;
}

public static int medalTotal(String type,int[][] n){
```

```
int index = index(type,medals);
int i,total;
total = 0;
for(i=0;i<5;i++){
total+=n[i][index];
}
return total;
}

public static int position(int[][] n){
int i,total;
int[] ranks = new int[5];
for(i=0;i<5;i++){
total = countryTotal(country[i],n);
ranks[i]=total;
}
Sort(country,ranks);
System.out.println("Country\tTotal Medals");
System.out.println(".....");
for(i=0;i<5;i++){
System.out.println(country[i]+"\t"+ranks[i]);
}
return index("India",country);
}

public static void main(String args[]){
Scanner in = new Scanner(System.in);
Random rand = new Random();
int[][] medalTally = new int[5][3];
int i,j;
for(i=0;i<5;i++){
for(j=0;j<3;j++){
medalTally[i][j] = rand.nextInt(10);
}
}
System.out.println("Country\t\tGold Medals\tSilver Medals\tBronze Medals");
System.out.println(".....");
for(i=0;i<5;i++){
System.out.print(country[i]+"\t");
for(j=0;j<3;j++){
System.out.print("\t\t"+medalTally[i][j]);
}
System.out.println();
}
System.out.print("\nEnter the country you want to know the total of : ");
String s = in.next();
System.out.println("The total number of medals for "+s+" is "+countryTotal(s,medalTally));
System.out.print("\nEnter the medal you want to know total of (Gold, Silver, Bronze) : ");
String s1 = in.next();
System.out.println("The total number of "+s1+" medals is : "+medalTotal(s1,medalTally)+"\n");
System.out.println("\nIndia is at "+(position(medalTally)+1)+"th position.");
}
```

}

Output :

```
piratepanda@SastaPC:~/Documents/javalab/week4$ java q1.java
Country         Gold Medals     Silver Medals   Bronze Medals
.............................................................
India                   4               9               9
Japan                   3               1               1
Russia                  7               1               4
China                   1               7               4
England                 7               5               0

Enter the country you want to know the total of : Russia
The total number of medals for Russia is 12

Enter the medal you want to know total of (Gold, Silver, Bronze) : Silver
The total number of Silver medals is : 23

Country Total Medals
.......................
India   22
Russia  12
China   12
England 12
Japan   5

India is at 1th position.
piratepanda@SastaPC:~/Documents/javalab/week4$
```

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Q2.

Solution :

```
import java.util.Scanner;
import java.util.Random;
public class q2{
public static void main(String args[]){
Scanner in = new Scanner(System.in);
Random rand = new Random();
System.out.print("City : Code\n.....\nDelhi : 01\nMumbai : 02\nChennai : 03\nHyderabad : 04\
nPune : 05\n\n");
int [][] temp = new int[5][6];
int i,j;
for(i=0;i<5;i++){
temp[i][0] = i+1;
}
for(i=0;i<5;i++){
for(j=1;j<6;j++){
temp[i][j] = rand.nextInt(50);
}
}
System.out.println("The temperature matrix : ");
for(i=0;i<5;i++){
for(j=0;j<6;j++){
System.out.print(temp[i][j]+" ");
}
System.out.println();
}
int max = temp[0][1];
int city = 0;
for(i=0;i<5;i++){
for(j=1;j<6;j++){
if(temp[i][j]>max){
max = temp[i][j];
city = temp[i][0];
}
}
}
System.out.println("\nThe city-code of city with highest temperature is : "+city);
System.out.println("The max temperature recorded is : "+max);
}
}
```

Output :

```
piratepanda@SastaPC:~/Documents/javalab/week4$ java q2.java
City : Code
...........
Delhi : 01
Mumbai : 02
Chennai : 03
Hyderabad : 04
Pune : 05

The temperature matrix :
1 47 32 41 15 43
2 48 48 26 2 16
3 10 41 23 15 45
4 32 44 44 38 16
5 47 4 43 5 46

The city-code of city with highest temperature is : 2
The max temperature recorded is : 48
piratepanda@SastaPC:~/Documents/javalab/week4$
```

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Q3 .

```
import java.util.Scanner;
import java.util.Random;
public class q3 {
public static void main(String args[]){
Scanner in = new Scanner(System.in);
Random rand = new Random();
int[] ballots = new int[6];
int i;
for(i=0;i<6;i++){
ballots[i]=0;
}
int vote;
System.out.print("Enter the total number of voters : ");
int voters = in.nextInt();
for(i=0;i<voters;i++){
vote = rand.nextInt(6);
switch(vote){
case 1 :
ballots[0]+=1;
break;
case 2 :
ballots[1]+=1;
```

```
break;
case 3 :
ballots[2]+=1;
break;
case 4 :
ballots[3]+=1;
break;
case 5 :
ballots[4]+=1;
break;
default:
ballots[5]+=1;
break;
}
}
System.out.println("\nCandidate Number\tVotes");
System.out.println(".....");
for(i=0;i<5;i++){
System.out.println("\t"+(i+1)+"\t\t"+ballots[i]);
}
System.out.println("\nSpoilt Ballots : "+ballots[5]);
}
}
```

Output :