Assignment no -5

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Q1. //Q Wap to convert Fahrenheit to Celsius in Java using formula given below

```
// °C = (°F – 32) / (9/5)
// °C = (°F – 32) / (9/5)
//°C = (°F – 32) / (9/5)
package assign;

import java.util.Scanner;

public class Q1 {

	public static void main(String[] args) {
		float fah;
		float cel=0;
	       Scanner sc = new Scanner(System.in);

		System.out.println("enter fahrenheit value =");
		fah = sc.nextFloat();

		cel=(fah-32)*5/9;
		System.out.println("celsius temperture is=" + cel);
		//°C = [(°F-32)×5]/9.
		sc.close();
	}
}
```

Output=`enter fahrenheit value =`

```
98
celsius temperture is=36.666668
```

Q2. //Q 2 wap to check a given number is armstrong or not i.e. 153 = 1*1*1 + 5*5*5+3*3*3

```
package assign;

import java.util.Scanner;

public class Q2 {

	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the number");
		int a=s.nextInt();
		int temp=a;
		int b,c;
		int sum=0;
		while(a>0)
		{
		b=a%10;
		c=b*b*b;
		sum=sum+c;
		a=a/10;
		}
		a=temp;
		if(a==sum) {System.out.println("Given number is armstrong");}
		else
			{System.out.println("Given number is not armstrong");}
			s.close();

	}

}
```

Output-

```
Enter the number
153
Given number is Armstrong

Enter the number
200
Given number is not Armstrong
```

Q3 //Q 3 Rajan went to a movie with his friends in a multiplex theatre and during break time he bought

```
//pizzas, puffs and cool drinks. Consider   the following
prices :
//Rs.100/pizza
//Rs.20/puffs
//Rs.10/cooldrink
//Generate a bill for What Rajan  has bought.
//Sample Input 1:
//Enter the no of pizzas bought:10
//Enter the no of puffs bought:12
//Enter the no of cool drinks bought:5
//Sample Output 1:
//Bill Details
//No of pizzas:10
//No of puffs:12
//No of cooldrinks:5
//Total price=1290

package assign;
import java.util.Scanner;
public class Q3 {


          static float Bill_details(int x,int y,int z)
          {
          System.out.println("Bill details");
          System.out.println("No. of pizzas: "+x);
          System.out.println("No. of pizzas: "+y);
          System.out.println("No. of pizzas: "+z);
          return (x*100)+(y*20)+(z*10);
          }
          public static void main(String[] args) {
          Scanner s=new Scanner(System.in);
          System.out.println("Enter the number of pizzas
bought");
          int a=s.nextInt();
          System.out.println("Enter the number of puffs
bought");
          int b=s.nextInt();
          System.out.println("Enter the number of cold drinks
bought");
          int c=s.nextInt();
          System.out.print("Total price
:"+Bill_details(a,b,c)+"\nThank you !! Visit Again !!");
          s.close();
          }
          }
OUTPUT=

Enter the number of pizzas bought
10
Enter the number of puffs bought
```

```
3
Enter the number of cold drinks bought
5
Bill details
No. of pizzas: 10
No. of pizzas: 3
No. of pizzas: 5
Total price :1110.0
Thank you !! Visit Again !!
```

```
Q4-Charge for the 200 to 250 units - 20*50 = 1000
Total Electricity Bill = 1000 + 1500 + 1000 = 3500
Input: U = 95
Output: 950
Explanation:
Charge for the first 100 units - 10*95 = 950
Total Electricity Bill = 950
*/
package assign;

import java.util.Scanner;
public class Q4 {


          static float Bill_details(float x)
          {
          if(x>=1 && x<=100)
          {
          return (x*10);
          }
          else if(x>100 && x<=200)
          {
          return ((x-100)*15+1000);
          }
          else if(x>200 && x<=300)
          {
          return ((x-200)*20+2500);
          }
          else
          {
          return ((x-300)*25+4500);
          }
          }
          public static void main(String[] args) {
          Scanner s=new Scanner(System.in);
          System.out.println("Enter the amount of KWh units of
electricity you have consumed");
          float unit=s.nextInt();
```

```
            System.out.println("Your bill is:
"+Bill_details(unit));
            s.close();

      }

}
```

OUTPUT=Enter the amount of KWh units of electricity you have consumed

```
250
Your bill is: 3500.0
```

Q5

/*Q 4 Write a java program that define a sorted array of size N and an integer K, find the position at which K is

present in the array using binary search.

Example 1:

Input:

N = 5

arr[] = {1 2 3 4 5}

K = 4

Output: 3

Explanation: 4 appears at index 3.

*/

package assign;

import java.util.Arrays;

import java.util.Scanner;

public class Q5 {

```
public static void main(String[] args) {
        Scanner s=new Scanner(System.in);
        System.out.println("Enter the 5 numbers");
        int a[]=new int[5];
        for(int i=0;i<a.length;i++)
        {
        a[i]=s.nextInt();
        }
        Arrays.sort(a);
        System.out.println("Enter the number you want to search");
        int n=s.nextInt();
        System.out.print("Sorted array is : ");
        for(int e:a)
        {
        System.out.print(e+" ");
        }
        int count=0;
        int first=0;
        int last=a.length-1;
        int mid=(first+last)/2;
        while(first<=last)
        {
        if(a[mid]<n) first=mid+1;
        else if(a[mid]==n)
        {
        System.out.println("\nRecord found at index of : "+mid);
        count=1;
        break;
```

```
                }
                else last=mid-1;
                mid=(first+last)/2;
                }
                if(count==0) System.out.println("\nRecord not found");
                s.close();
        }}
```

OUTPUT-

```
Enter the amount of KWh units of electricity you have consumed
250
Your bill is: 3500.0
```

Q5..

/*Q 4 Write a java program that define a sorted array of size N and an integer K, find the position at which K is

present in the array using binary search.

Example 1:

Input:

N = 5

arr[] = {1 2 3 4 5}

K = 4

Output: 3

Explanation: 4 appears at index 3.

*/

```
package assign;

import java.util.Arrays;
```

```
import java.util.Scanner;

public class Q5 {

	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the 5 numbers");
		int a[]=new int[5];
		for(int i=0;i<a.length;i++)
		{
		a[i]=s.nextInt();
		}
		Arrays.sort(a);
		System.out.println("Enter the number you want to search");
		int n=s.nextInt();
		System.out.print("Sorted array is : ");
		for(int e:a)
		{
		System.out.print(e+" ");
		}
		int count=0;
		int first=0;
		int last=a.length-1;
		int mid=(first+last)/2;
		while(first<=last)
		{
		if(a[mid]<n) first=mid+1;
		else if(a[mid]==n)
		{
```

```
                System.out.println("\nRecord found at index of : "+mid);
                count=1;
                break;
                }
                else last=mid-1;
                mid=(first+last)/2;
                }
                if(count==0) System.out.println("\nRecord not found");
                s.close();
        }}
```

OUTPUT=

```
Enter the 5 numbers
2
3
4
5
7
Enter the number you want to search
3
Sorted array is : 2 3 4 5 7
Record found at index of : 1
```

Q6

```
/*Q 5  write a java program and define  an array, print all the elements
which are leaders. A Leader
 * is an element that is greater than all of the elements on its right side
in the array.

Examples:
Example 1:
Input:
 arr = [4, 7, 1, 0]
Output:
 7 1 0
Explanation:
 Rightmost element is always a leader. 7 and 1 are greater than the
elements in their right side.
*/

package assign;

import java.util.Scanner;

public class Q5_ {
```

```
	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		int a[]=new int[6];
		System.out.println("Enter 6 numbers");
		for(int i=0;i<a.length;i++)
		{
		a[i]=s.nextInt();
		}
		int leader=a[a.length-1];
		System.out.print("Leaders : ");
		System.out.print(leader+" ");
		for(int i=a.length-2;i>=0;i--)
		{
		if(leader<a[i])
		{
		leader=a[i];
		System.out.print(leader+" ");
		}
		}
		s.close();

	}

}
```

OUTPUT=

```
Enter 6 numbers
4
5
6
7
8
9
Leaders : 9
```

Q7

```
/* Given two strings a and b consisting of lowercase characters. The task
is to check whether two given
 * strings are an anagram of each other or not. An anagram of a string is
another string that contains the same characters, only the order of
characters can be different. For example,  abc  and  bca are an anagram of
each other.

Example 1:

Input:a = cdacnoida, b = ciddacnoa
Output: YES
Explanation: Both the string have same characters with
     same frequency. So, both are anagrams.
     */
package assign;

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

public class Q6 {
```

```
	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the 1st word");
		String a=s.nextLine();
		System.out.println("Enter the 2nd word");
		String b=s.nextLine();
		char c[]=a.toCharArray();
		char d[]=b.toCharArray();
		Arrays.sort(c);
		Arrays.sort(d);
		if(Arrays.equals(c, d)) System.out.println("Strings are
anagram");
		else System.out.println("Strings are not anagram");
		s.close();

	}

}
```

Output=

```
Enter the 1st word
 lion
Enter the 2nd word
lineon
Strings are not anagram

Enter the 1st word
listen
Enter the 2nd word
silent
Strings are anagram
```