NAME : SAURABH BRAMHANKAR

ASSIGNMENT NO 04

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

°C = (°F − 32) / (9/5)

```
package A4;
import java.util.Scanner;
public class A4Q1 {

	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.println("Enter the temperature in Fahrenhiet");
		float temp=s.nextFloat();
		float temp2=(temp-32)*5/9;
		System.out.printf("The temperature in degree celsius is : %5.2f ",temp2);
		s.close();

	}

}
```

```
Enter the temperature in Fahrenhiet
45
The temperature in degree celsius is :  7.22
```

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 A4;
import java.util.Scanner;
public class A4Q2 {

	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)
		{
	a=a/10;
		b=a%10;
```

```
            c=b*b*b;
            sum=sum+c;
            }
            a=temp;
            if(a==sum) System.out.println("Given number is armstrong");
            else System.out.println("Given number is not armstrong");
            s.close();


        }

}
```

```
<terminated> A4Q2 [Java Application] C:\Program Files\Java
Enter the number
53
Given number is not armstrong
```

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 A4;
import java.util.Scanner;
public class A4Q3 {
        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)+"Visit Again!!");
        s.close();
}

}
```

```
<terminated> A4Q3 [Java Application] C:\Program Files\Java\jdk-18.0.2.1\bin\javaw.exe (Sep 2
Enter the number of pizzas bought
34
Enter the number of puffs bought
67
Enter the number of cold drinks bought
34
Bill details
No. of pizzas: 34
No. of pizzas: 67
No. of pizzas: 34
Total price :5080.0Visit Again!!
```

Q 4 Given an integer U denoting the amount of KWh units of electricity consumed, the task is to calculate the electricity bill with the help of the below charges:

1 to 100 units – Rs. 10/unit
100 to 200 units – Rs. 15/unit
200 to 300 units – Rs. 20/unit
above 300 units – Rs. 25/unit
Examples:

Input: U = 250
Output: 3500
Explanation:

Charge for the first 100 units – 10*100 = 1000
Charge for the 100 to 200 units – 15*100 = 1500
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 A4;
import java.util.Scanner;
public class A4Q4 {
	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 units of electricity you have consumed");
		float unit=s.nextInt();
		System.out.println("Your bill is: "+Bill_details(unit));
		s.close();

	}
```

}

```
<terminated> A4Q4 [Java Application] C:\Program Files\Java\jdk-18.0.2.1\bin\
Enter units of electricity you have consumed
6574
Your bill is: 161350.0
```

Q 5 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 A4;
import java.util.Arrays;
import java.util.Scanner;
public class A4Q5 {

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

        }

}
```

```
<terminated> A4Q5 [Java Application] C:\Program Files\Java\jdk-18.0.2.1\bin\javaw.exe (Sep 29, 2022,
Enter the 5 numbers
12
34
55

76
67
Enter the number you want to search
76
Sorted array is : 12 34 55 67 76 Record found at index of : 4
```

Q 6 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 A4;
```

```java
import java.util.Scanner;
public class A4Q6 {

	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();

	}

}
```

```
<terminated> A4Q6 [Java Application] C:\Program
Enter 6 numbers
54
66
11
88
9857
123
Leaders : 123 9857
```

Q 7 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 A4;
import java.util.Arrays;
import java.util.Scanner;
public class A4Q7 {

	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();

	}

}
```