COGNIZANT GENC CODING QUESTIONS AND ANSWERS

Problem Statement 1 – Write a program to calculate the fuel consumption of your truck.The program should ask the user to enter the quantity of diesel to fill up the tank and the distance covered till the tank goes dry.Calculate the fuel consumption and display it in the format (liters per 100 kilometers).

Convert the same result to the U.S. style of miles per gallon and display the result. If the quantity or distance is zero or negative display " is an Invalid Input".

[**Note:** The US approach of fuel consumption calculation (distance / fuel) is the inverse of the European approach (fuel / distance). Also note that 1 kilometer is 0.6214 miles, and 1 liter is 0.2642 gallons.]

The result should be with two decimal place.To get two decimal place refer the below-mentioned print statement :

float cost=670.23;

System.out.printf("You need a sum of Rs.%.2f to cover the trip",cost);

Sample Input 1:
* Enter the no of liters to fill the tank

    20
* Enter the distance covered

    150

Sample Output 1:
* Liters/100KM

    13.33
* Miles/gallons

    17.64

Explanation:
* For 150 KM fuel consumption is 20 liters,
* Then for 100 KM fuel consumption would be (20/150)*100=13.33,
* Distance is given in KM, we have to convert it to miles (150*0.6214)=93.21,
* Fuel consumption is given in liters, we have to convert it to gallons (20*0.2642)=5.284,
* Then find (miles/gallons) = (93.21/5.284)=17.64

Sample Input 2:
* Enter the no of liters to fill the tank

    -5

Sample Output 2:
* -5 is an Invalid Input

Sample Input 3:
* Enter the no of liters to fill the tank

    25
* Enter the distance covered

    -21

Sample Output 3:

- -21 is an Invalid Input

Solution:-

```java
package cognizant;

import java.util.*;
public class cognizantGenc {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int x=sc.nextInt();
        if(x<0){
            System.out.println(x+" is an invalid Input");
            System.exit(0);
        }
        int y=sc.nextInt();
        if(y<0){

            System.out.println(y+" is an invalid Input");
            System.exit(0);
        }
        double v=(double)(x*100)/y;

        System.out.println("For 100 KM fuel consumption
would be: "+String.format("%.2f", (v)));

        double z=(y*0.6214);
        double w=(x*0.2642);
        System.out.println(" Miles/gallons
"+String.format("%.2f", (z/w)));
    }
}
```

Problem Statement 2– FOE college wants to recognize the department which has succeeded in getting the maximum number of placements for this academic year. The departments that have participated in the recruitment drive are CSE,ECE, MECH. Help the college find the department getting maximum placements. Check for all the possible output given in the sample snapshot

Note : If any input is negative, the output should be "Input is Invalid". If all department has equal number of placements, the output should be "None of the department has got the highest placement".

Sample Input 1:
- Enter the no of students placed in CSE:90
- Enter the no of students placed in ECE:45
- Enter the no of students placed in MECH:70

Sample Output 1:
- Highest placement

  CSE

Sample Input 2:
- Enter the no of students placed in CSE:55
- Enter the no of students placed in ECE:85
- Enter the no of students placed in MECH:85

Sample Output 2:
- Highest placement

  ECE

  MECH

Sample Input 3:
- Enter the no of students placed in CSE:0
- Enter the no of students placed in ECE:0
- Enter the no of students placed in MECH:0

Sample Output 3:
- None of the department has got the highest placement

Sample Input 4:

- Enter the no of students placed in CSE:10
- Enter the no of students placed in ECE:-50
- Enter the no of students placed in MECH:40

Sample Output 4:

- Input is Invalid

Solution:-

```java
package cognizant;
import java.util.*;
public class cognizantGenc2 {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the no of students placed in CSE: ");
        int x=sc.nextInt();
        System.out.println("Enter the no of students placed in ECE: ");
        int y=sc.nextInt();
        System.out.println("Enter the no of students placed in MECH: ");
        int z=sc.nextInt();
        System.out.println("Highest placement");
        if(x<0||y<0||z<0){
         System.out.println("invalid Input");
         System.exit(0);
        }
        if(x>80 && y>80 && z>80){
         System.out.println("CSE");
         System.out.println("ECE");
         System.out.println("MECH");
        }else if(x>80 && y>80 && z<80){
         System.out.println("CSE");
         System.out.println("ECE");
        }else if(x<80 && y>80 && z>80){
         System.out.println("ECE");
         System.out.println("MECH");
        }else if(x>80 && y<80 && z>80){
         System.out.println("CSE");
         System.out.println("MECH");
        }else if(x>80 && y<80 &&z<80){
         System.out.println("CSE");
        }else if(x<80 && y>80 && z<80){
         System.out.println("ECE");
        }else if(x<80 && y<80 && z>80){
         System.out.println("MECH");
        }else{
         System.out.println("None of the department has got the highest placement");
        }
    }
}
```

Problem Statement 3 –

IIHM institution is offering a variety of courses to students. Students have a facility to check whether a particular course is available in the institution. Write a program to help the institution accomplish this task. If the number is less than or equal to zero display "Invalid Range".

Assume maximum number of courses is 20.

Sample Input 1:
- Enter no of course:

  5
- Enter course names:

  Java

  Oracle

  C++

  Mysql

  Dotnet
- Enter the course to be searched:

  C++

Sample Output 1:

C++ course is available

Sample Input 2:
- Enter no of course:

  3
- Enter course names:

  Java

  Oracle

  Dotnet
- Enter the course to be searched:

  C++

Sample Output 2:

C++ course is not available

Sample Input 3:
- Enter no of course:

  0

Sample Output 3:

Invalid Range

Solution:-

```java
package cognizant;
import java.util.*;
public class cognizantGenc3 {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter number of course");
        int x=sc.nextInt();
        if(x<=0){
            System.out.println("Invalid Range");
            System.exit(0);
        }
        String arr[]=new String[x];
        for(int i=0;i<x;i++){
            arr[i]=sc.next();
        }
        for(int i=0;i<arr.length;i++){
            System.out.print(arr[i]+" ");
        }
        System.out.println("Enter what course you want to find");
        String sh=sc.next();
        for(int i=0;i<arr.length;i++){
            if(sh.equals(arr[i])){
                System.out.println(sh+" course is available");
            }
        }System.out.println("Sorry the "+sh+ " course is not
available");

    }
}
```

Problem Statement 4- XYZ Technologies is in the process of increment the salary of the employees. This increment is done based on their salary and their performance appraisal rating.

1. If the appraisal rating is between 1 and 3, the increment is 10% of the salary.
2. If the appraisal rating is between 3.1 and 4, the increment is 25% of the salary.
3. If the appraisal rating is between 4.1 and 5, the increment is 30% of the salary.

Help them to do this, by writing a program that displays the incremented salary. Write a class "IncrementCalculation.java" and write the main method in it.

Note : If either the salary is 0 or negative (or) if the appraisal rating is not in the range 1 to 5 (inclusive), then the output should be "Invalid Input".

Sample Input 1 :
- Enter the salary

8000
- Enter the Performance appraisal rating

3

Sample Output 1 :

8800

Sample Input 2 :
- Enter the salary

7500
- Enter the Performance appraisal rating

4.3

Sample Output 2 :

9750

Sample Input 3 :
- Enter the salary

-5000
- Enter the Performance appraisal rating

6

Sample Output 3 :
- Invalid Input

Solution:-

```java
package cognizant;

import java.util.Scanner;

public class cognizantGenc4 {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your salary");
        int x=sc.nextInt();
        System.out.println("Enter the Performance appraisal
rating");
        float y=sc.nextFloat();
        if(x<0){
            System.out.println("Invalid Input");
            System.exit(0);
        }
        else if(y>0 && y<=3){
            System.out.println(x+((x*10)/100));
        }
        else if(y>3 && y<=4){
            System.out.println(x+((x*25)/100));
        }
        else if(y>4 && y<=5){
            System.out.println(x+((x*30)/100));
        }else{
            System.out.println("Invalid Input");
        }

    }
}
```

Problem Statement 5– Bela teaches her daughter to find the factors of a given number. When she provides a number to her daughter, she should tell the factors of that number. Help her to do this, by writing a program. Write a class FindFactor.java and write the main method in it.

Note :

- If the input provided is negative, ignore the sign and provide the output. If the input is zero
- If the input is zero the output should be "No Factors".

Sample Input 1 :

54

Sample Output 1 :

1, 2, 3, 6, 9, 18, 27, 54

Sample Input 2 :

-1869

Sample Output 2 :

1, 3, 7, 21, 89, 267, 623, 1869

Solution:-

```java
package cognizant;

import java.util.Scanner;

public class cognizantGenc5 {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the number whose factors you want");
        int x=sc.nextInt();
        if(x<0){
            x=-(x);
            System.out.println(x);
        }
        int temp=x;
        for(int i=1;i<=x;i++){
            if(x%i==0){
                System.out.print(i+", ");
            }
        }
    }
}
```

PrepInsta Genc Coding Questions Link:-

https://prepinsta.com/cognizant/coding-questions/

If you are finding error in the code then please remove the first line where package cognizant is written and then the code will run smoothly and according to the question it will give you the output.

Thank you