1. **Problem Statement –**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;

**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

1. **Problem Statement –**Vohra went to a movie with his friends in a Wave 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 Vohra 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

1. **Problem Statement –**Ritik wants a magic board, which displays a character for a corresponding number for his science project. Help him to develop such an application.  
   **For example** when the digits 65,66,67,68 are entered, the alphabet ABCD are to be displayed.  
   [Assume the number of inputs should be always 4 ]

**Sample Input 1:**

* Enter the digits:  
  65  
  66  
  67  
  68

**Sample Output 1:**

65-A  
66-B  
67-C  
68-D

**Sample Input 2:**

* Enter the digits:  
  115  
  116  
  101  
  112

**Sample Output 2:**

115-s  
116-t  
101-e  
112-p

1. **Problem Statement –**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

1. **Problem Statement  –**In a theater, there is a discount scheme announced where one gets a 10% discount on the total cost of tickets when there is a bulk booking of more than 20 tickets, and a discount of 2% on the total cost of tickets if a special coupon card is submitted. Develop a program to find the total cost as per the scheme. The cost of the k class ticket is Rs.75 and q class is Rs.150. Refreshments can also be opted by paying an additional of Rs. 50 per member.

**Hint: k and q and You have to book minimum of 5 tickets and maximum of 40 at a time. If fails display “Minimum of 5 and Maximum of 40 Tickets”.  If circle is given a value other than ‘k’ or ‘q’ the output should be “Invalid Input”.**

**The ticket cost should be printed exactly to two decimal places.**

**Sample Input 1:**

* Enter the no of ticket:35
* Do you want refreshment:y
* Do you have coupon code:y
* Enter the circle: k

**Sample Output 1:**

* Ticket cost:4065.25
* **Problem Statement –**Goutam and  Tanul plays  by  telling numbers.  Goutam says a number to Tanul.  Tanul should first reverse the number and check if it is same as the original.  If yes,  Tanul should say “Palindrome”.  If not, he should say “Not a Palindrome”.  If the number is negative, print “Invalid Input”.  Help Tanul by writing a program.
* **Sample Input 1 :**
* 21212
* **Sample Output 1 :**
* Palindrome
* **Sample Input 2 :**
* 6186
* **Sample Output 2 :**
* Not a Palindrome

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

1. Draw the Diamond pattern

\*  
 \*\*\*  
 \*\*\*\*\*  
 \*\*\*\*\*\*\*  
 \*\*\*\*\*  
 \*\*\*  
 \*

Diamond Star Pattern

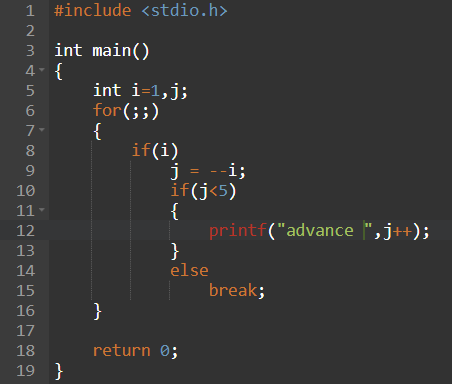
1. **What will be the output of this program ?**

Option – 1.  No, compile error but it’ll print Advance  Four-time.

Option – 2. No, compile error but it will run into an infinite loop printing Advance.

Option – 3. No, compile error but it’ll print Advance  Five-time

Option – 4. Compile-time error.



1. The Highest Common Multiple or the Greatest Common Divisor is the greatest number that exactly divides both numbers. It is possible to calculate this number through simple mathematical calculations. The following algorithm shows how the GCD of two numbers is calculated.

Ex:-

the H.C.F or G.C.D of 12 and 14 is 2.

The H.C.F or G.C.D of 16 and 12 is 4

1. Programming Pattern to Print 2\*N Number of rows for input Pattern?

3

44

555

6666

555

44

3