1)
Problem Statement – Chaman planned to choose a four digit lucky number for his car. His lucky numbers are 3,5 and 7. Help him find the number, whose sum is divisible by 3 or 5 or 7. Provide a valid car number, Fails to provide a valid input then display that number is not a valid car number.

Note : The input other than 4 digit positive number[includes negative and 0] is considered as invalid.
Refer the samples, to read and display the data.

Sample Input 1:

Enter the car no:1234
Sample Output 1:

Lucky Number
Sample Input 2:

Enter the car no:1214
Sample Output 2:

Sorry its not my lucky number

Sample Input 3:

Enter the car no:14
Sample Output 3:

14 is not a valid car number

2)
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.

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

3)
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

4)
Problem Statement – To speed up his composition of generating unpredictable rhythms, Blue Bandit wants the list of prime numbers available in a range of numbers.Can you help him out?

Write a java program to print all prime numbers in the interval [a,b] (a and b, both inclusive).

Note

Input 1 should be lesser than Input 2. Both the inputs should be positive.
Range must always be greater than zero.
If any of the condition mentioned above fails, then display “Provide valid input”
Use a minimum of one for loop and one while loop
Sample Input 1:

2

15

Sample Output 1:

2 3 5 7 11 13

Sample Input 2:

8

5

Sample Output 2:

Provide valid input

5)
Problem Statement – Rhea Pandey’s teacher has asked her to prepare well for the lesson on seasons. When her teacher tells a month, she needs to say the season corresponding to that month. Write a program to solve the above task.

Spring – March to May,
Summer – June to August,
Autumn – September to November and,
Winter – December to February.
Month should be in the range 1 to 12.  If not the output should be “Invalid month”.

Sample Input 1:

Enter the month:11
Sample Output 1:

Season:Autumn
Sample Input 2:

Enter the month:13
Sample Output 2:

Invalid month

6)
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
Sample Input 2:

Enter the no of ticket:1
Sample Output 2:

Minimum of 5 and Maximum of 40 Tickets

7)
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

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

8)
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

9)
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
ENJOY THE SHOW!!!

10)
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;

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