**Exercises**

1. Take values of length and breadth of a rectangle from user and check if it is square or not.
2. Take two int values from user and print greatest among them.
3. A shop will give discount of 10% if the cost of purchased quantity is more than 1000.  
   Ask user for quantity  
   suppose, one unit will cost 100.  
   Judge and print total cost for user.
4. A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years.  
   Ask user for their salary and year of service and print the net bonus amount.
5. A school has following rules for grading system:  
   a. Below 25 - F  
   b. 25 to 45 - E  
   c. 45 to 50 - D  
   d. 50 to 60 - C  
   e. 60 to 80 - B  
   f. Above 80 - A  
   Ask user to enter marks and print the corresponding grade.
6. Take input of age of 3 people by user and determine oldest and youngest among them.
7. Write a program to print absolute vlaue of a number entered by user. E.g.-  
   INPUT: 1        OUTPUT: 1  
   INPUT: -1        OUTPUT: 1
8. A student will not be allowed to sit in exam if his/her attendence is less than 75%.  
   Take following input from user  
   Number of classes held  
   Number of classes attended.  
   And print  
   percentage of class attended  
   Is student is allowed to sit in exam or not.
9. Modify the above question to allow student to sit if he/she has medical cause. Ask user if he/she has medical cause or not ( 'Y' or 'N' ) and print accordingly.
10. If  
    x = 2  
    y = 5  
    z = 0  
    then find values of the following expressions:  
    a. x == 2  
    b. x != 5  
    c. x != 5 && y >= 5  
    d. z != 0 || x == 2  
    e. !(y < 10)
11. Write a program to check whether a entered character is lowercase ( a to z ) or uppercase ( A to Z ).
12. Write a Java program to check if a number is even or odd using if-else statement.
13. Write a Java program to print the multiplication table of a given number using for loop.
14. Write a Java program to print the Fibonacci series up to a given number using while loop.
15. Write a Java program to find the sum of all numbers from 1 to N using do-while loop.
16. Write a Java program to print the factorial of a given number using recursion.
17. Write a Java program to calculate the sum of all the prime numbers between two given numbers using nested loops.
18. Write a Java program to convert a decimal number to binary using bitwise operators.
19. Write a Java program to implement a calculator using switch statement.
20. Write a program to check if a year is leap year or not.  
    If a year is divisible by 4 then it is leap year but if the year is century year like 2000, 1900, 2100 then it must be divisible by 400.
21. Ask user to enter age, sex ( M or F ), marital status ( Y or N ) and then using following rules print their place of service.  
    if employee is female, then she will work only in urban areas.  
      
    if employee is a male and age is in between 20 to 40 then he may work in anywhere  
      
    if employee is male and age is in between 40 t0 60 then he will work in urban areas only.  
      
    And any other input of age should print "ERROR".
22. A 4 digit number is entered through keyboard. Write a program to print a new number with digits reversed as of orignal one. E.g.-  
    INPUT : 1234        OUTPUT : 4321  
    INPUT : 5982        OUTPUT : 2895