C/C++ Programming in UNIX
Lab 03

1. Write a program to calculate sum of even numbers and sum of odd numbers from 0 to 100.

2. Write a program to calculate the factorial with given integer n: if n is odd, factorial = 1 * 3 * 5 * … * n if n is even, factorial = 2 * 4 * 6 *… *n

3. Input an integer N then calculate the sum of all squared odd numbers less than N
   Example: $N = 6 \Rightarrow Sum = 1^2 + 3^2 + 5^2 = 35$

4. Input the current balance of the bank saving account, the yearly interest rate and number of year N. Calculate the account balance at the end of year N
   Example: initial balance = 100,000 ; interest rate = 10% ; N = 2 ; ending balance = 121,000

5. Write a Taxi meter program to calculate the taxi fare for a given mileage.
   The 1st 2km is 15,000 VND
   Each next 0.25km will cost 2,000 VND
   If the travel distance is larger than 30km then each extra km will cost only 5,000VND
   Allow user to input the travel distance in km and print the amount of money to be paid

6. Write a program for solving quadratic equation $ax^2 + bx + c = 0$
   Example:
   Enter a, b and c of quadratic equation: 2 4 1
   Roots of quadratic equation are: -0.293, -1.707

7. Input a 3 numbers date, month, year (assume that all inputs are valid). How many days are there in that month (you have to consider the leap year)? Calculate the previous and next date
   Example: 20/2/2019 → 28 days, previous: 19/2/2019, next: 21/2/2019

8. Print the Pascal triangle for given integer n. Example n = 7

```
              1
            1   1
          1   2   1
        1   3   3   1
      1   4   6   4   1
    1   5  10  10   5   1
  1   6  15  20  15   6   1
1   7  21  35  35  21   7   1
```