**BCA V Semester**

**Assignment#1(C#)**

**Date of Allotment:12/07/2023 Date of Submission:17/07/2023**

1. The total distance travelled by a vehicle in t seconds is given by

**Distance=ut+ (at2)/2**

Where u is the initial velocity (meter per second) a is acceleration (meter per second2). Write a program to evaluate the distance travel at regular intervals of time, given the value of u and a. The program should provide the flexibility to the user to select his own time intervals and repeat the calculations for different value of u and a.

1. In Inventory Management, the Economic Order Quantity for a single item is given by

**EOQ=√ (2\*demand rate\*setup costs)/holding cost per item per unit time**

And the optimal Time between orders:

**TBO=√ (2\*setup cost)/ (demand rate \*holding cost per item per unit time)**

Write a program to compute EQ and TBO, given demand rate (items per unit time), costs (per order) and the holding cost (per item per unit time)

1. For a certain electrical circuit with an inductance L and resistance R, the damped natural frequency is given by

**Frequency = √ (1 / LC – R2 / 4C2)**

It is desired to study the variation of this frequency with C (capacitance). Write a program to calculate the frequency for different values of C starting from 0.01 to 0.1 in steps of 0.01

1. A set of two linear equations with two unknowns x­1 and x2 is given below:

**Ax1+bx2=m**

**Cx2+dx2=n**

The set has a unique solution

**X1= (md+bn)/(ad-cb)**

**X2= (na+mc)/(ad-cb)**

Provided the denominator ad-cb is not equal to zero. Write a program that will read the values of constants a, b, c, d, m and n and compute the values of x and x2.An appropriate message should be printed if ad-cb=0

1. Given a list of marks ranging from 0 to 100.Write aprogarm to compute and print the number of students who have obtained marks
   1. In the range 81-100
   2. In the range 61-80
   3. In the range 41-61 and
   4. In the range 0-40