Lab Task: MID TERM [30 Marks]

1. [5] Write a C program to solve the Drake equation $N = R * f_p * n_e * f_l * f_i * f_c * L$. Where R, n_e and L must be discrete value.

Sample Input

Enter R, F(p), n(e), f(l), f(i), f(c), L: **5 0.25 20 0.2 0.15 0.11 150**

Sample Output

The number of communicative civilizations within the Milky Way today: **12.375**

2. [7] Write a C Code to calculate $D = b^2 - 4ac$ and show the result according to following conditions:

a. D>0 then Calculate X_1, X_2. Where $x1 = \frac{-b+\sqrt{b^2-4ac}}{2a}$ and $x2 = \frac{-b-\sqrt{b^2-4ac}}{2a}$

b. D =0 then calculate X. Where $x = \frac{b^2}{2a}$

c. D<0 then print "**No Solution**".

Sample Input

Enter a, b & c: **5 6 1**

Sample Output

X1: **-0.2**

X2: **-1**

3. [8] Write a C Code to find total marks from given input: Attendance, Class test, Quiz test, Assignment, Midterm and Final Exam and find the grade using the following method:

i. If Total mark >=80 then A+
ii. If Total mark >=70 then A
iii. If Total mark >=60 then A-
iv. If Total mark >=50 then B
v. Else Grade = F.

Sample Input

Enter Attendance, Class test, Quiz test, Assignment, Midterm and Final Exam:

2.5 7.5 3.5 7 21.5 33

Sample Output

Total Mark: **75** & Grade: **A**