Lab 07 – 16-10-2023

Task 1: Write a program to find the roots of a quadratic equation using the formula: $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Prompt the user for the input "a," accepting only non-zero values. Continuously request the user to re-enter the value until a non-zero value is provided. Additionally, check if the discriminant ($b^2 - 4ac$) is negative. If it is negative, print "Sorry, the roots are imaginary." If the discriminant is non-negative, print both roots on separate lines. See sample output:

A: 0   *A: 1*
Enter non-zero valu: *B: 5*
A: 0   *C: 4*
Enter non-zero valu: *Root 1: -4*
A: -1   *Root 2: -1*
B: 1
C: 25
Roots are imaginary

Task 2: Please input the runs and wickets for both team 1 and team 2. Ensure that all values are non-negative (zero is allowed). Additionally, check that if team 2 has more runs, their wickets should be less than 10.

After the input check is complete, if team 2 has more runs, print "**Team 2 has won by … wickets**" (the number of remaining wickets for team B; if they have lost 6 wickets, there are 4 wickets remaining). If team 1 has more runs, print, "**Team 1 has won by … runs**" (the difference in runs between team A and team B). In the event that both teams have the same runs but different numbers of wickets, the team with fewer wickets will win. Print "**Team 1 won by 1 run**" for team 1 and "**Team 2 won by … wickets**" for team 2. Otherwise, print, "The match is a draw".