

FileEditSelectionViewGoRunTerminalHelp

c prog

add.cday5.execc.cloop.cday5.c7.cpo.cDay8.cDAAtcDAY9.c

DAY9.c > main()

```
1 //Q17: Write a program to find the roots of a quadratic equation and categorize them.
2 #include<stdio.h>
3 #include<math.h>
4 int main() {
5     float a, b, c;
6     float discriminant, root1, root2, realPart, imagPart;
7
8     printf("Enter coefficients a, b and c: ");
9     scanf("%f %f %f", &a, &b, &c);
10
11     discriminant = b * b - 4 * a * c;
12
13     if (discriminant > 0) {
14         // Real and distinct roots
15         root1 = (-b + sqrt(discriminant)) / (2 * a);
16         root2 = (-b - sqrt(discriminant)) / (2 * a);
17         printf("Roots are real and distinct.\n");
18         printf("Root 1 = %.2f\n", root1);
19         printf("Root 2 = %.2f\n", root2);
20     } else if (discriminant == 0) {
21         // Real and equal roots
22         root1 = -b / (2 * a);
23         printf("Roots are real and equal.\n");
24         printf("Root = %.2f\n", root1);
25     } else {
26         // Complex roots
27         realPart = -b / (2 * a);
28         imagPart = sqrt(-discriminant) / (2 * a);
29         printf("Roots are complex and imaginary.\n");
30         printf("Root 1 = %.2f + %.2fi\n", realPart, imagPart);
31         printf("Root 2 = %.2f - %.2fi\n", realPart, imagPart);
32     }
33 }
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINALPORTS

```
PS C:\Users\ACER\Desktop\c prog> gcc DAY9.c
PS C:\Users\ACER\Desktop\c prog> ./a.exe
Enter coefficients a, b and c: 8 9 3
Roots are complex and imaginary.
Root 1 = -0.56 + 0.24i
Root 2 = -0.56 - 0.24i
PS C:\Users\ACER\Desktop\c prog>
```

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powershellcppdbg: DA...powershellcppdbg: DA...powershellcppdbg: DA...powershellcppdbg: DA...powershell

