

```

1  #For Loops Challenge 12: Quadratic Equation Solver App
2  import cmath
3
4  #Print Welcome Information
5  print("Welcome to the Quadratic Equation Solver App")
6  print("\nA quadratic equation is of the form  $ax^2 + bx + c = 0$ ")
7  print("Your solutions can be real or complex numbers.")
8  print("A complex number has two parts: a + bj")
9  print("Where a is the real portion and bj is the imaginary portion.")
10
11 #Get user input
12 eq_number = int(input("\nHow many equations would you like to solve today: "))
13
14 #Loop through and solve each equation
15 for i in range(eq_number):
16     print("\nSolving equation #" + str(i+1))
17     print("-----")
18     a = float(input("\nPlease enter your value of a (coefficient of x^2): "))
19     b = float(input("Please enter your value of b (coefficient of x): "))
20     c = float(input("Please enter your value of c (coefficient): "))
21
22     #Solving the quadratic formula
23     x1 = (-b + cmath.sqrt(b**2 - 4*a*c))/(2*a)
24     x2 = (-b - cmath.sqrt(b**2 - 4*a*c))/(2*a)
25
26     print("\nThe solutions to " + str(a) + "x^2 + " + str(b) + "x + " + str(c) +
27 " = 0 are: ")
28     print("\tx1 = " + str(x1))
29     print("\tx2 = " + str(x2))
30
31 print("\nThank you for using the Quadratic Equation Solver App. Goodbye.")

```