Problem Sets for Loops and Conditional statements

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Q1: Write a MATLAB program to get the Fibonacci series between 0 to 50.

Q2: Write a MATLAB program to find all the prime numbers between 0 to 100.

Q3: Write a MATLAB program that acts as a basic calculator. The program should allow the user to input two numbers and select an operation (addition, subtraction, multiplication, division). Based on the selected operation, use a switch case to perform the calculation and display the result.

Q4: Write a MATLAB program to calculate and display the squares of the first 10 positive integers.

Q5: Write a MATLAB program to find and display the sum of all positive integers less than a user-defined number using a while loop.

Q6: Write a MATLAB program to calculate the reverse of a given positive integer using a while loop. For example, if the input is 1234, the output should be 4321.

Q7: Write a MATLAB program that:

- ✓ Creates a random matrix of integers between 1 and 20.
- ✓ Uses a while loop to repeatedly double the values in the matrix until the maximum element in the matrix exceeds 100.
- ✓ Displays the matrix at each step of the iteration.

Q8: Write a MATLAB program to solve a quadratic equation and handle the three different cases for the roots based on the discriminant

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