Assignment 3: Control Flow testing: White box testing approach

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For all the below examples perform the following tasks.

- **Draw the control flow graph for the program.**
- **Calculate the cyclomatic complexity of the program.**
- **List all the independent paths**
- **Design test cases from independent paths.**

Test case ID	Input	Expected Result	Independent Path

1. Write a Program to find a given number is prime number or not.
2. Write a Program to find the factorial of a given number.
3. Write a Program to search a given number from an array. If number is found, then give the index of the number if number is not found return -1.
4. Write a Program to find the average values from a given array falling in a given range specified by MIN and MAX.
5. Write a Program to find total number of digits, alphabets and special characters from a given string.
6. Write a program to accept a string and character, count occurrence of character if found else return -1.
7. Write a program to return count of elements which are divisible by 4,6,7,8 from an array of 10 elements.
8. Perform CFT for following snippets.

```
Read ax, by
ax= by -10
If by % 7 == 0 than
 Print ax
Else
  Print by
End if
While ax < = 5
 Print ax
  ax++
End while
Print ax+by
```

9. Write a program to capitalize the first letter of each word in a sentence but ignore articles and conjunctions (e.g., a, an, the, and, but, or) and print the string.
10. Write a program that compress a string using run-length encoding.
    For example, input "aaabbc" → output "a3b2c1".