

1. Check If Two Strings are Anagram

```
def are_anagrams(str1, str2):  
    # Remove spaces and convert to lowercase for case-insensitive comparison  
    str1 = str1.replace(" ", "").lower()  
    str2 = str2.replace(" ", "").lower()  
  
    # Check if the sorted characters of both strings are the same  
    return sorted(str1) == sorted(str2)  
  
# Default input strings for testing  
str1 = "Listen" # Default test string 1  
str2 = "Silent" # Default test string 2  
  
# Check if the strings are anagrams  
if are_anagrams(str1, str2):  
    print(f"{str1}" and "{str2}" are anagrams.)  
else:  
    print(f"{str1}" and "{str2}" are not anagrams.)
```

Expected Output:

"Listen" and "Silent" are anagrams.

2. Find the Largest Among Three Numbers

```
def largest_of_three(a, b, c):  
    numbers = [a, b, c]  
    largest = numbers[0]  
    for num in numbers:  
        if num > largest:  
            largest = num
```

```
return largest
```

Example usage

```
a, b, c = 10, 20, 15
```

```
print("Largest number:", largest_of_three(a, b, c))
```

Expected Output:

```
Largest number: 20
```

3. Find the Factorial of a Number

```
public class Factorial {
```

```
    public static long factorial(int num) {
```

```
        long fact = 1;
```

```
        for (int i = 1; i <= num; i++) fact *= i;
```

```
        return fact;
```

```
    }
```

```
    public static void main(String[] args) {
```

```
        // Default input
```

```
        int number = 5; // You can change this to any number for testing
```

```
        System.out.println(number < 0 ? "Factorial is not defined for negative numbers." : "Factorial of "
+ number + " is: " + factorial(number));
```

```
    }
```

```
}
```

Expected Output:

```
Factorial of 5 is: 120
```

4. Print all Prime Numbers in an Interval

```
public class PrimeNumbersInInterval {

    // Method to check if a number is prime
    public static boolean isPrime(int num) {
        if (num <= 1) {
            return false; // Numbers less than or equal to 1 are not prime
        }
        for (int i = 2; i <= Math.sqrt(num); i++) {
            if (num % i == 0) {
                return false; // Number is divisible by i, so it's not prime
            }
        }
        return true; // Number is prime
    }

    // Method to print all prime numbers in an interval
    public static void printPrimesInInterval(int start, int end) {
        System.out.println("Prime numbers between " + start + " and " + end + " are:");
        for (int num = start; num <= end; num++) {
            if (isPrime(num)) {
                System.out.print(num + " "); // Print the prime number
            }
        }
        System.out.println(); // Print a newline after printing all primes
    }

    public static void main(String[] args) {
        // Default interval for testing
        int start = 10; // Change this value as needed
    }
}
```

```
int end = 50; // Change this value as needed

// Call the function to print primes in the interval
printPrimesInInterval(start, end);
}
}
```

Expected Output:

Prime numbers between 10 and 50 are:

11 13 17 19 23 29 31 37 41 43 47

5. check if a Number is Odd or Even

```
#include <stdio.h>
```

```
void check_odd_even(int n) {
    // Use bitwise AND to check if the number is odd or even
    if (n & 1) {
        printf("%d is Odd\n", n);
    } else {
        printf("%d is Even\n", n);
    }
}
```

```
int main() {
    int number = 7; // Default input value

    // Check if the number is odd or even
    check_odd_even(number);
}
```

```
    return 0;
}
```

Expected Output:

7 is Odd

6. Count the Number of Each Vowel

```
#include <stdio.h>
```

```
#include <ctype.h>
```

```
void countVowels(char str[]) {
```

```
    int a = 0, e = 0, i = 0, o = 0, u = 0;
```

```
    // Loop through the string and count each vowel
```

```
    for (int j = 0; str[j] != '\0'; j++) {
```

```
        char ch = tolower(str[j]); // Convert to lowercase for case insensitivity
```

```
        if (ch == 'a') a++;
```

```
        else if (ch == 'e') e++;
```

```
        else if (ch == 'i') i++;
```

```
        else if (ch == 'o') o++;
```

```
        else if (ch == 'u') u++;
```

```
    }
```

```
    // Print the counts of each vowel
```

```
    printf("Count of 'a': %d\n", a);
```

```
    printf("Count of 'e': %d\n", e);
```

```
    printf("Count of 'i': %d\n", i);
```

```
    printf("Count of 'o': %d\n", o);
```

```
    printf("Count of 'u': %d\n", u);
```

```
}
```

```
int main() {  
    // Default input value  
    char str[] = "Hello World! This is a sample string."  
  
    countVowels(str);  
  
    return 0;  
}
```

Expected Output:

Count of 'a': 2

Count of 'e': 2

Count of 'i': 3

Count of 'o': 2

Count of 'u': 0