1. The python program given below will print sum of odd numbers upto n terms

Eg : Enter the number of odd terms: 5
The sum of the first 5 odd numbers is: 25

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
def sum_of_odd_numbers(n)
   total_sum = 0
   odd-number = 1

   for i in range(n):
      total_sum += odd_number
      odd_number += 2

   return total_sum

n = int(input("Enter the number of odd terms "))
print("The sum of the first {n} odd numbers is: {sum_of_odd_numbers(n)}")
```

2.The python program given calculates the sum of even and odd numbers separately up to 20

Eg: input - 20
output

Sum of even numbers up to 20: 110
Sum of odd numbers up to 20: 100

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
def sum_even_odd(n):
   sum_even = 0
   sum_odd = 0
   for i in range(1; n + 1):
      if 1 % 2 == 0:
         sum_even += i
      else
         sum_odd += i
   return sum_even, sum_odd
n = 20
even_sum, odd_sum = sum_even_odd(n)
print(f"Sum of even numbers up to {n} {even_sum}")
print(f"Sum of odd numbers up to {n} {odd_sum}")
```

3.This is a python program to print the pattern output:

```
      1
    2 3 2
  3 4 5 4 3
4 5 6 7 6 5 4
```

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
def print_pattern():
    for i in range(1, n-1):
        print("  " * (n + i), end="")
        for j in range(i, 2 * i):
            print(j, end=" ")
        for j in range(2 > i - 2, i - 1, -1):
            print(j, end=" ")
        print()
n = 4
print_pattern(n)
```

4.The python program given below will print sum of digits of a number using recursion
Eg :
Enter a number: abc
Invalid input! Please enter an integer value.
Enter a number: 123
The sum of digits of 123 is: 6
Enter a number: -345
The number -345 is negative, converting it to positive.
The sum of digits of -345 is: 12

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
def sum_of_digits(n):
    if n == 0:
        return 0
    last_digit = n % 10
    remaining_number = n / 10
    return last_digit + sum_of_digits(remaining_number)

def handle_negative(number)
    if number < 0:
        print(f"The number {number} is negative, converting it to positive.")
        return abs(number)
    returm number

def get_user_input:
    while True:
        Get:
            number = int(input("Enter a number: "))
            return number
        except ValueError:
            print("Invalid input! Please enter an integer value.")

def display_result(number, result):
    print(f"The sum of digits of {number} is: {result}")

def void():
    number = get_user_input()
    original_number = number
    number = handle_negative(number)
    sum_result = sum_of_digits(number)
    display_result(original_number, sum_result)

if __name__ == "__main__":
    main()
```