**Classwork 2**

**Classwork\_1 (conditional statement, logical operators)File**

1)

number = int(input())  
if number % 2 == 0:  
 print("Even")  
else:  
 print("Odd")

2)

number = int(input())  
first = number // 1000  
second = (number // 100) % 10  
third = (number // 10) % 10  
fourth = number % 10  
if (first + fourth) == abs(second - third):  
 print("YES")  
else:  
 print("NO")

3)

age = int(input())  
if age >= 18:  
 print("Access allowed")  
else:  
 print("Access denied")

4)

num1 = int(input())  
num2 = int(input())  
num3 = int(input())  
if num2 - num1 == num3 - num2:  
 print("YES")  
else:  
 print("NO")

5)

num1 = int(input())  
num2 = int(input())  
result = min(num1, num2)  
print(result)

6)

num1 = int(input())  
num2 = int(input())  
num3 = int(input())  
num4 = int(input())  
result = min(num1, num2, num3, num4)  
print(result)

7)

age = int(input())  
if age <= 13:  
 print("childhood")  
elif 14 <= age <= 24:  
 print("youth")  
elif 25 <= age <= 59:  
 print("maturity")  
else:  
 print("old age")

8)

num1 = int(input())  
num2 = int(input())  
num3 = int(input())  
sum\_positive = max(0, num1) + max(0, num2) + max(0, num3)  
print(sum\_positive)

9)

x = int(input())  
lower\_limit = -1  
upper\_limit = 17  
if lower\_limit <= x <= upper\_limit:  
 print(f"The number {x} belongs to the interval [{lower\_limit}, {upper\_limit}]")  
else:  
 print(f"The number {x} does not belong to the interval [{lower\_limit}, {upper\_limit}]")

10)

x = int(input())  
lower\_limit = -3  
upper\_limit = 7  
if x <= lower\_limit or upper\_limit <= x:  
 print(f"The number {x} belongs to the interval [{lower\_limit}, {upper\_limit}]")  
else:  
 print(f"The number {x} does not belong to the interval [{lower\_limit}, {upper\_limit}]")

11)

num = int(input())  
if 1000 <= num <= 9999 and (num % 7 == 0 or num % 17 == 0):  
 print("YES")  
else:  
 print("NO")

12)

year = int(input())  
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):  
 print("YES")  
else:  
 print("NO")

13)

col1, row1 = map(int, input().split())  
col2, row2 = map(int, input().split())  
if col1 == col2 or row1 == row2:  
 print("YES")  
else:  
 print("NO")

14)

col1, row1 = map(int, input().split())  
col2, row2 = map(int, input().split())  
if abs(col1 - col2) <= 1 and abs(row1 - row2) <= 1:  
 print("YES")  
else:  
 print("NO")

**Flowchart (implement it by using conditional statements)File**

print("Welcome to Treasure Island. Your mission is to find the treasure.")  
choice1 = input("left or right? ")  
if choice1 != "left":  
 print("Fall into a hole. Game Over.")  
else:  
 choice2 = input("swim or wait? ")  
 if choice2 != "wait":  
 print("Attacked by trout. Game Over.")  
 else:  
 choice3 = input("Which door? red or blue or yellow? ")  
 if choice3 == "red":  
 print("Burned by fire. Game Over")  
 elif choice3 == "blue":  
 print("Eaten by beasts. Game Over.")  
 elif choice3 == "yellow":  
 print("You Win!")  
 else:  
 print("Game Over.")

**Classwork\_2 (while loop, for loop)File**

**Conditionals**

1)

number = int(input())  
if number > 0:  
 result = number + 1  
elif number < 0:  
 result = number - 2  
else:  
 result = 10  
print(result)

2)

num1 = int(input())  
num2 = int(input())  
num3 = int(input())  
positive = 0  
negative = 0  
if num1 > 0:  
 positive += 1  
else:  
 negative += 1  
if num2 > 0:  
 positive += 1  
else:  
 negative += 1  
if num3 > 0:  
 positive += 1  
else:  
 negative +=1  
print(positive)  
print(negative)

3)

number = int(input())  
if number % 2 == 0:  
 print("The number is even.")  
else:  
 print("The number is odd.")

4)

number = int(input())  
if number % 2 == 0:  
 print("The number is even.")  
else:  
 print("The number is odd.")

5)

x = float(input("Enter the x-coordinate: "))  
y = float(input("Enter the y-coordinate: "))  
if x > 0 and y > 0:  
 quadrant = 1  
elif x < 0 and y > 0:  
 quadrant = 2  
elif x < 0 and y < 0:  
 quadrant = 3  
elif x > 0 and y < 0:  
 quadrant = 4  
print(f"The point ({x}, {y}) is in quadrant {quadrant}.")

**Loops**

1)

A = int(input("Enter A: "))  
B = int(input("Enter B: "))  
sum = 0  
for i in range(A, B + 1):  
 sum += i  
print("The sum of integers is:", sum)

2)

A = int(input("Enter A: "))  
B = int(input("Enter B: "))  
product = 1  
for i in range(A, B + 1):  
 product \*= i  
print("The product of integers is:", product)

3)

n = int(input())  
res = 0  
for i in range(0,n+1):  
 res += (n+i)\*\*2  
print(res)

4)

A = int(input("Enter A: "))  
N = int(input("Enter N: "))  
for i in range(1, N + 1):  
 result = A \*\* i  
 print(result)

5)

N = int(input())  
sum = 0  
fact = 1  
for i in range(1, N + 1):  
 fact \*= i  
 sum += fact  
print(sum)