Questions

1. Define a variable **age** with your age and print it.
2. Create a variable with a valid identifier for your favourite color and assign it a value. Print the variable.
3. Swap the values of two variables **a** and **b** using a temporary variable.
4. Write a program that performs all arithmetic operations between two numbers **x** and **y**.
5. Compare two variables **m** and **n** and print whether **m** is greater than **n**.
6. Write a program using logical operators to check if a number is between 10 and 20.
7. Define a string variable and print its length.
8. Create a list of five numbers and print the sum of the list.
9. Create a dictionary with keys as names and values as ages. Print the age of a specific name.
10. Write a program that checks if a number is even or odd.
11. Write a program to check if a number is positive, negative, or zero using nested if.
12. Write a program that assigns a grade based on a score.
13. Print all even numbers from 1 to 20 using a for loop.
14. Print numbers from 10 down to 1 using a while loop.
15. Print a multiplication table from 1 to 5 using nested loops.
16. Write a function **greet** that prints "Hello, World!".
17. Write a function that takes two numbers and returns their sum.
18. Write a function that returns the factorial of a number.
19. Write a function that greets a person with a default name if no name is provided.
20. Write a function that takes a variable number of arguments and prints each one.
21. Write a program that prints the first 10 numbers in the Fibonacci sequence.
22. Create a function called **add\_numbers** that takes two numbers as parameters and returns their sum.
23. Python function **is\_even** that takes an integer and returns **True** if the number is even and **False** otherwise.
24. Implement a function **is\_prime** that checks if a given number is a prime number.
25. Write a function **sum\_list** that takes a list of numbers and returns the sum of all the numbers in the list. List=[1,2,3,4,5]

age = 25

print(age)

favorite\_color = "blue"

print(favorite\_color)

a = 3

b = 8

temp = a

a = b

b = temp

print("a:", a)

print("b:", b)

x = 12

y = 4

print("Addition:", x + y)

print("Subtraction:", x - y)

print("Multiplication:", x \* y)

print("Division:", x / y)

print("Modulus:", x % y)

m = 10

n = 5

print(m > n)

num = 15

print(10 < num < 20)

message = "Hello, Python!"

print(len(message))

numbers = [1, 2, 3, 4, 5]

print(sum(numbers))

ages = {"Alice": 25, "Bob": 30, "Charlie": 35}

print(ages["Bob"])

num = 7

if num % 2 == 0:

print("Even")

else:

print("Odd")

num = -10

if num >= 0:

if num == 0:

print("Zero")

else:

print("Positive")

else:

print("Negative")

score = 85

if score >= 90:

print("A")

elif score >= 80:

print("B")

elif score >= 70:

print("C")

elif score >= 60:

print("D")

else:

print("F")

for i in range(1, 21):

if i % 2 == 0:

print(i)

i = 10

while i > 0:

print(i)

i -= 1

for i in range(1, 6):

for j in range(1, 6):

print(i \* j, end=' ')

print()

def greet():

print("Hello, World!")

greet()

def add(a, b):

return a + b

result = add(3, 5)

print(result)

def factorial(n):

if n == 0:

return 1

else:

return n \* factorial(n - 1)

print(factorial(5))

def greet(name="Stranger"):

print("Hello,", name)

greet("Alice")

greet()

def print\_all(\*args):

for arg in args:

print(arg)

print\_all(1, 2, 3, "apple", "banana")

# Control Loops

a, b = 0, 1

for \_ in range(10):

print(a, end=' ')

a, b = b, a + b

# Output should be 0 1 1 2 3 5 8 13 21 34

def add\_numbers(a, b):

return a + b

# Example usage:

result = add\_numbers(5, 3)

print(result) # Output: 8

def is\_even(number):

return number % 2 == 0

# Example usage:

print(is\_even(4)) # Output: True

print(is\_even(7)) # Output: False

def is\_prime(n):

if n <= 1:

return False

for i in range(2, int(n\*\*0.5) + 1):

if n % i == 0:

return False

return True

# Example usage:

print(is\_prime(11)) # Output: True

print(is\_prime(4)) # Output: False

def sum\_list(numbers):

total = 0

for number in numbers:

total += number

return total

# Example usage:

print(sum\_list([1, 2, 3, 4, 5])) # Output: 15