TECHNIK NEST

INNOVATIVE MINDS, NESTING SUCCESS

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Task week: 01

Internship Domain: Python Development

Instructor Name: Mr. Hassan Ali

Task No 1:

Run hello script printing your name.

Code:

```
print("Hello, Zafar Iqbal")
```

output:

Task No 2:

Fix badly-indented code.

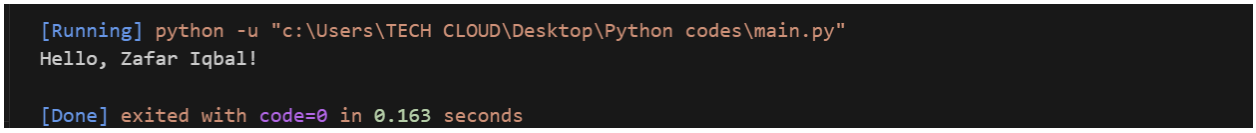
Add comments explaining each step.

Code:

```
# Define a function that takes a name as input
def say_hello(name):
    # Print a greeting using an f-string
    print(f"Hello, {name}!")

# Call the function with your name
say_hello("Zafar Iqbal")
```

Output:



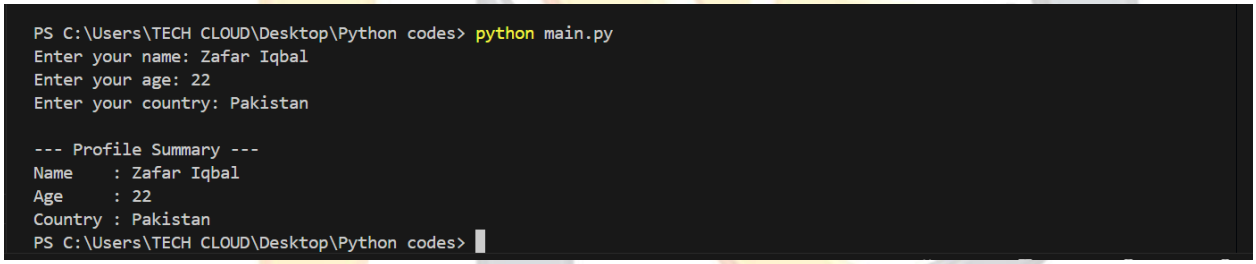
Task No 3:

Collect user profile & print typed summary.

Code:

```
name = input("Enter your name: ")
age = int(input("Enter your age: "))
country = input("Enter your country: ")
print("\n--- Profile Summary ---")
print(f"Name    : {name}")
print(f"Age     : {age}")
print(f"Country : {country}")
```

Output:



2.Swap two variables without temp var.

Code:

```
print("\n--- Variable Swapping ---")
a = int(input("Enter value for a: "))
b = int(input("Enter value for b: "))


a, b = b, a
print(f"After swapping: a = {a}, b = {b}")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python main.py

--- Variable Swapping ---
Enter value for a: 5
Enter value for b: 3
After swapping: a = 3, b = 5
PS C:\Users\TECH CLOUD\Desktop\Python codes>
```

Task No 4:

Read three numbers; output avg.

Code:

```
num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

num3 = float(input("Enter third number: "))


average = (num1 + num2 + num3) / 3


print(f"\nAverage of the three numbers: {average:.2f}")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python average.py
Enter first number: 12
Enter second number: 23
Enter third number: 32

Average of the three numbers: 22.33
PS C:\Users\TECH CLOUD\Desktop\Python codes>
```


2.Convert minutes to hours + minutes.

Code:

```
total_minutes = int(input("\nEnter total minutes: "))

hours = total_minutes // 60

minutes = total_minutes % 60

print(f"{total_minutes} minutes is {hours} hour(s) and {minutes} minute(s).")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python minutestoHour.py

Enter total minutes: 120
120 minutes is 2 hour(s) and 0 minute(s).
PS C:\Users\TECH CLOUD\Desktop\Python codes>
```

Task No 5:

1. BMI calc from user input.

Code:

```
weight = float(input("Enter your weight in kilograms (kg): "))


height = float(input("Enter your height in meters (m): "))


# Formula to calculate BMI
bmi = weight / (height ** 2)


print(f"\nYour BMI is: {bmi:.2f}")


if bmi < 18.5:
    print("Category: Underweight")
elif 18.5 <= bmi < 24.9:
    print("Category: Normal weight")
elif 25 <= bmi < 29.9:
    print("Category: Overweight")
else:
    print("Category: Obese")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python bmi.py
Enter your weight in kilograms (kg): 65
Enter your height in meters (m): 1.3

Your BMI is: 38.46
Category: Obese
```

2. Simple interest calc.

Code:

```
# --- Simple Interest Calculator ---

principal = float(input("Enter the principal amount (P): "))

rate = float(input("Enter the annual interest rate (R%): "))

time = float(input("Enter the time in years (T): "))

# Calculate simple interest
simple_interest = (principal * rate * time) / 100

print(f"\nSimple Interest = {simple_interest:.2f}")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python interestCalculator.py
Enter the principal amount (P): 3000
Enter the annual interest rate (R%): 10
Enter the time in years (T): 1

Simple Interest = 300.00
PS C:\Users\TECH CLOUD\Desktop\Python codes>
```

Task No 6:

Username builder from full name.

Code:

```
full_name = input("Enter your full name: ")

name_parts = full_name.strip().split()

username = ""
```

```
# Build username based on number of parts
if len(name_parts) == 1:
    username = name_parts[0].lower()
elif len(name_parts) == 2:
    username = name_parts[0][0].lower() + name_parts[1].lower()
else:
    username = name_parts[0][0].lower() + name_parts[1][0].lower() + name_parts[
1].lower()
print(f"Generated Username: {username}")
```

Output:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python usernameGEnerator.py
Enter your full name: Zafar Iqbal
Generated Username: ziqbal
```

2. Vowel/consonant counter.

Code:

```
text = input("Enter a word or sentence: ")
text = text.lower()
vowels = "aeiou"

vowel_count = 0
consonant_count = 0
for char in text:
    if char.isalpha():
        if char in vowels:
            vowel_count += 1
        else:
            consonant_count += 1
print(f"\nVowels: {vowel_count}")
print(f"Consonants: {consonant_count}")
```

ouTpuT:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python vowelConsonant.py
Enter a word or sentence: hey this is Zafar Iqbal

Vowels: 7
Consonants: 12
```

Task No 7:

Multiplication table.

Code:

```
# Get number for multiplication table
num = int(input("Enter a number to print its multiplication table: "))
# Print multiplication table from 1 to 10
print(f"\nMultiplication Table of {num}:")
for i in range(1, 11):
    print(f"{num} x {i} = {num * i}")
```

ouTpuT:

```
PS C:\Users\TECH CLOUD\Desktop\Python codes> python multiplicationTable.py
Enter a number to print its multiplication table: 12

Multiplication Table of 12:
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120
PS C:\Users\TECH CLOUD\Desktop\Python codes>
```

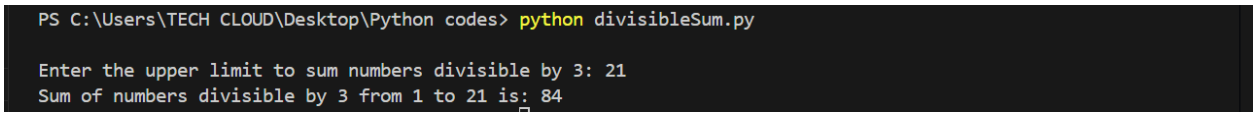
2. Sum numbers divisible by 3.

Code:

```
limit = int(input("\nEnter the upper limit to sum numbers divisible by 3: "))
sum_div_by_3 = 0
for i in range(1, limit + 1):
```

```
    if i % 3 == 0:
        sum_div_by_3 += i
print(f"Sum of numbers divisible by 3 from 1 to {limit} is: {sum_div_by_3}")
```

ouTpuT:



Conclusion:

This week, we focused on learning the fundamental concepts of the Python programming language. The tasks I completed were directly related to the topics covered in class, allowing me to apply theoretical concepts through practical exercises.

As part of this week's work, I developed several basic Python programs that take user input and perform various operations. These included printing a "Hello World" message, calculating and displaying user information such as Body Mass Index (BMI) and simple interest, converting minutes into hours and minutes, generating usernames from full names, and counting vowels and consonants in a given text.

Additionally, programs were created to generate multiplication tables and compute the sum of numbers divisible by three. All these tasks made use of core Python concepts such as user input handling, loops, conditional statements, and string operations. This hands-on approach provided a clear and practical understanding of Python basics, helping to build a strong foundation for future programming skills