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Task no: **1**

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Internship Domain: **python Development**

Task: Syntax & Indentation

1. Fix badly-indented code. And explain through comments

- A badli indented code is taken from the google
- Perfom correctness

```
bad indented code.py > ...
1   #correctness of badly indented code
2   """ num = int(input("Enter a number: "))
3       if num % 2 == 0:
4       print(f"{num} is an even number.") # Incorrect indentation here
5       else:
6        print(f"{num} is an odd number.") # Incorrect indentation here"""
7
8       #corrected code
9   num = int(input("Enter a number: "))
10  if num % 2 == 0:
11          print(f"{num} is an even number.")  #corrected indentation here by adding tab before print
12  else:
13          print(f"{num} is an odd number.") # corrected indentation here by adding tab before print
14
```

Output:

```
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs> ^C
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>  c:; cd 'c:\Users
hon programs'; & 'c:\Users\TAHIR CHTHA\AppData\Local\Programs\Python\Python
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\bad indented code
Enter a number: 2
2 is an even number.
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

- Learn error correction
- And code indentation rules

Tasks : Variables & Types

1. Collect user profile & print typed summary.

- Take input from the user
- Combine it to make a profile summary of user info

```python
# Task: user profile summary
name= input('enter your complete name:')
age= input('enter your age:')
study= input('enter your qualification:')
email= input('enter your email:')
Add1= input('enter your country:')
Add2= input('enter your city:')
Add3= input('enter your area:')
Add4= input('enter your home location:')
address= (f"{Add4} {Add3} {Add2} {Add1}")
print('your profile summary is:')
print('Name:',name)
print("age:",age)
print("qualification:",study)
print("Email:",email)
print("Address:",address)

```

Output:

```
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\l
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\user profile.py'
enter your complete name:Ymeen Fatima
enter your age:21
enter your qualification:IT Student
enter your email: ymeenfatima19@gmail.com
enter your country:pakistan
enter your city:multan
enter your area:bilal chock
enter your home location:mujahid town
your profile summary is:
Name: Ymeen Fatima
age: 21
qualification: IT Student
```

2. Swap two variables without temp var.

- Swap two variables value without using third variable

```
19   # Task: swapping variable's value without using any third variable
20
21   num = 32
22   num2 = 60
23   num , num2 = num2 , num
24   print(num)
25   print(num2)
```

Output:

```
60
32
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

Tasks – Casting & I/O

1. Read three numbers; output avg.

- Taking 3 numbers from user
- Calculate its average
- Show results

3number average.py > ...

```
1   # Task: 3 numbers and their average
2
3   A = int(input('enter first number: '))
4   B= int(input('enter second number:'))
5   C= int(input('enter third number:'))
6   Avg= (A+B+C)/3
7   print('The average of three numbers is: ', Avg)
8
9
```

Output:

```
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>  c:; cd 'c:\Users\TAHIR CHTHA\OneDriv
hon programs'; & 'c:\Users\TAHIR CHTHA\AppData\Local\Programs\Python\Python313\python3.13t.exe'
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\libs\debugpy\launche
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\3number average.py'
enter first number: 2
enter second number:3
enter third number:4
The average of three numbers is:  3.0
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

- Learn how to use operators in python

2. Convert minutes to hours + minutes.

- Making conversions on user's choice from hour to minutes and minutes to hours

conversion.py

```python
#Task:4 conversions

dec= int(input('enter 1 for hour conversion and 2 for minute conversion:'))
if dec == 1:
    hour= int(input('enter hour: '))
    conv = hour * 60
    print('the hour is converted to minute: ', conv)

elif dec == 2:
    min= int(input('enter minute: '))
    conv = min / 60
    print('the minute is converted to hour: ', conv)

```

Output:

```
hon programs'; & 'c:\Users\TAHIR CHTHA\AppData\Local\Programs\Python\Python313\pytho
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\libs\debu
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\conversion.py'
enter 1 for hour conversion and 2 for minute conversion:1
enter hour: 2
the hour is converted to minute:  120
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

Tasks – Operators

1. BMI calc from user input.

- Develop a BMI calculator

- Take height and weight from user and show results
- Along with BMI

BMI_calculator.py > ...

```
1   #Tasks: BMI Calculator
2
3   weight = float( input("enter your weight in kg:"))
4   height = float(input("enter your height in meters:"))
5   bmi = weight / float(height ** 2)
6   print("your BMI is: ", bmi)
7   if bmi<18.5 :
8   |    print("you are underweight")
9   elif bmi>=18.5 and bmi<25 :
10  |    print("you are normal weight")
11  elif bmi>=25 and bmi<30 :
12  |    print("you are overweight")
13  elif bmi>30 :
14  |    print("you are obese")
15
16
17
```

Output:

```
enter your weight in kg:56
enter your height in meters:5.4
your BMI is:  1.9204389574759944
you are underweight
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

rams) BLACKBOX Chat Add Logs CyberCoder Improve Code Share Code Link Open Web

2. Simple interest calc.

- This calculator calculates the interest on amount according to interest rate

```python
#Task; interest calculator

prin = float(input("enter the principal amount:"))
rate = float(input("enter the rate of interest:"))
time = float(input("enter the time period in years:"))
interest = (prin * rate * time) / 100
print("the interest is: ", interest)
print("the total amount is: ", prin + interest)

```

Output:

```
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\simple_i
enter the principal amount:100000
enter the rate of interest:10
enter the time period in years:1
the interest is:  10000.0
the total amount is:  110000.0
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

Tasks – Strings

1. Username builder from full name.

- Building user name using strings functions

```python
#Task: user name builder from full name
f_name = input("Enter your first name: ")
l_name = input("Enter your last name: ")
user_name = f_name + l_name f_name = 'ymeen', l_name = 'fatima'
print("Your username is: ", user_name.lower())
print("Your username is: ", user_name.upper())
user_name= '_'.join(user_name.split())
print("Your username is: ", user_name.split())

```

Output:

```
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\user_n
Enter your first name: ymeen
Enter your last name: fatima
Your username is:  ymeenfatima
Your username is:  YMEENFATIMA
Your username is:  ['ymeenfatima']
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

2. Vowel/consonant counter.

- This counter countes the vowel and consonant from user's given statement

vowels_counter.py > ...

```python
def count_vowels_consonants(text):
    vowels = "aeiouAEIOU"
    vowel_count = 0
    consonant_count = 0
    for char in text:
        if char.isalpha():  # Check if the character is an alphabet
            if char in vowels:
                vowel_count += 1
            else:
                consonant_count += 1
    return vowel_count, consonant_count

sentence = input('enter a sentence')
v, c = count_vowels_consonants(sentence)
print(f"Number of vowels: {v}")
print(f"Number of consonants: {c}")
```

Output:

```
enter a sentence a big elephant
Number of vowels: 5
Number of consonants: 7
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```


Tasks – Conditionals

1. Grade calculator.

- This calculator shows percentage and grade of a student

```python
#Task: grade calculator

obt_marks = int(input("Enter obtained marks: "))
tot_marks = int(input("Enter total marks: "))
# Calculating percentage
percent = (obt_marks / tot_marks) * 100
print('Your percentage is:',percent)
if percent >= 80:
    print("Your grade is: A+")
elif percent >= 70 and percent < 80:
    print("Your grade is: A")
elif percent >= 60 and percent < 70:
    print("Your grade is: B")
elif percent >= 50 and percent < 60:
    print("Your grade is: C")
elif percent >= 40 and percent < 50:
    print('Your grade is: D')
elif percent < 40 and percent >= 0:
    print("Your grade is: F")

```

Output:

```
ion programs'; & 'c:\Users\TAHIR CHTHA\AppData\Local\Programs\Python\Python313\python3
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\libs\debugp
' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\grade_calc.py'
Enter obtained marks: 966
Enter total marks: 1100
Your percentage is: 87.81818181818181
Your grade is: A+
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

2. Password strength classifier.

- This classifier is used to know the strength of password

```python
import re
password = str( input('Enter your password;'))
score = 0
neg = 0
if len(password)>=8 :
    score += 1
else:
    neg += 1
    print('length shpould be more then or equal to 8 letters and symbols')
if  any(char.isupper() for char in password) :
    score += 1
else:
    neg += 1
    print('enter atleast 1 uppercase letter')
if any(char.islower() for char in password):
    score += 1
else:
    neg += 1
    print('password should contain at least 1 lowercase character')
if any(char.isdigit() for char in password):
    score += 1
else:
    neg += 1
    print('password should contain atleast 1 digit')

special_characters = ":;!@#$%^&*_-.,"
if any(char in special_characters for char in password):
    score += 1
else:
    neg += 1
    print('1 special character must be used')
if score ==5 and neg==0:
```

Output:

```
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\passwor
Enter your password;ymeenFatima@12
strong password
PS C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs>
```

Tasks – Loops

1. Multiplication table.

- This code generates the multiplication table of user's given number and range

multiplication_table.py > ...

```
#Task: multiplication table

num = int(input('enter a number to calculate its table:'))
length = int(input('enter the length of table:'))
for i in range(1, length):
    print(num, 'x', i, '=', num*i)
```

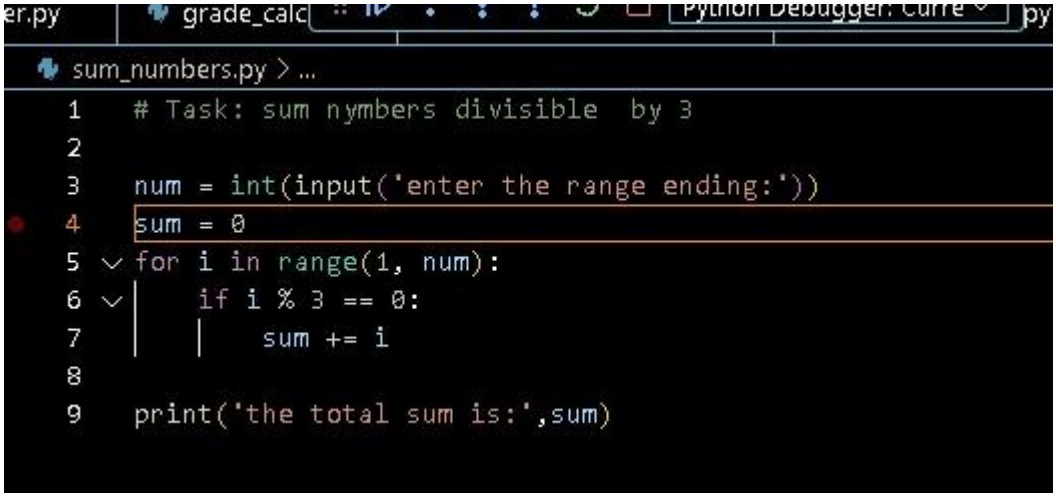
Output:

```
HIR CHTHA\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\libs
-' 'C:\Users\TAHIR CHTHA\OneDrive\Desktop\python programs\multiplication_table.
enter a number to calculate its table:2
enter the length of table:11
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
```

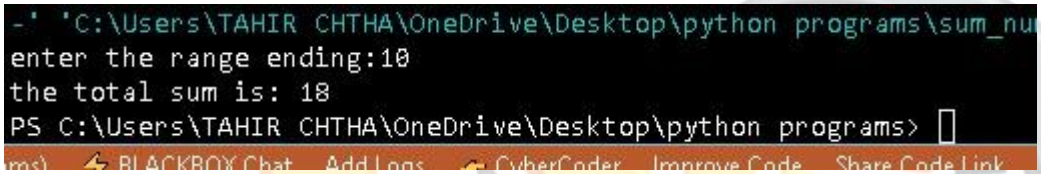
2. Sum numbers divisible by 3

- Add the numbers that are divisible by 3 according to users range

3.



Output:



Learning and chalanges:

I have learn many concepts in this week tasks while there are some tasks that I felt hard to implement because I'm at beginner level and didn't know their logic although these tasks help me understand python in depth.