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Internship Domain: python

Task week : 2

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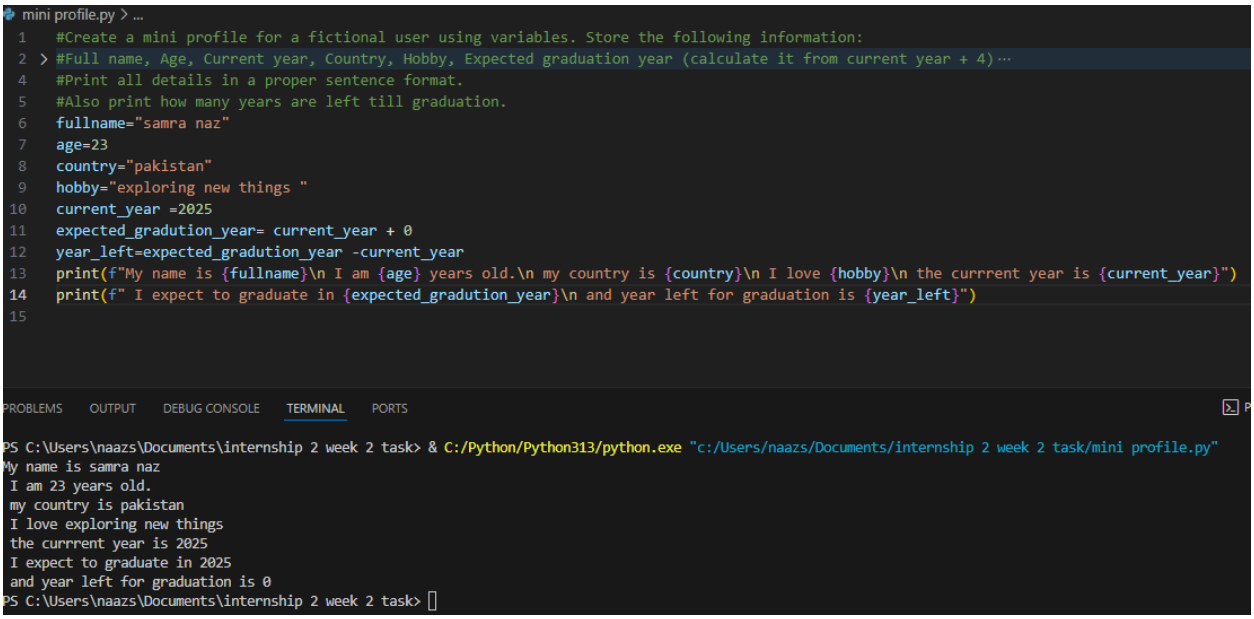
TASK 1

Description

This Python program stores and displays personal information such as name, age, country, and hobby using variables. It also calculates the expected graduation year and how many years are left until graduation based on the current year. The program then prints all this information in a formatted and readable way using f-strings.

Program



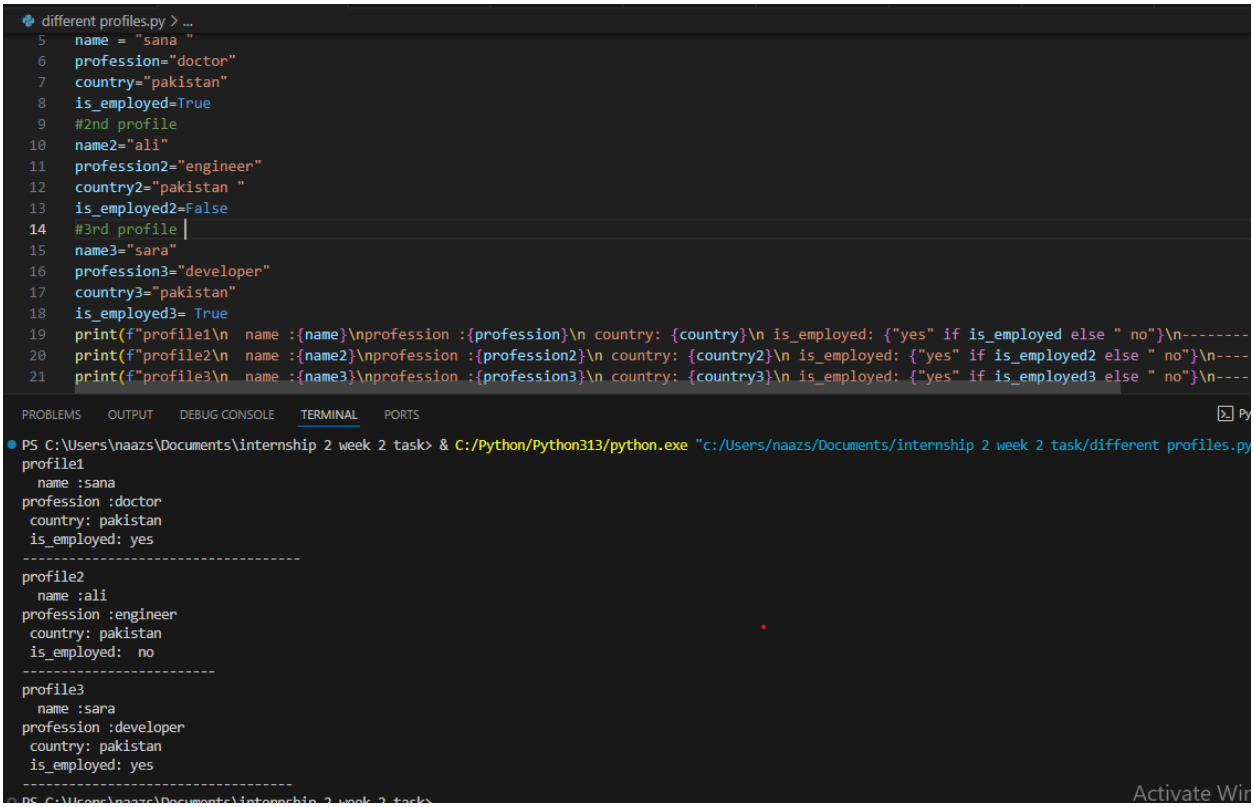
TASK 2

Discription

This Python program stores and displays information for three different user profiles. Each profile contains a person's name, profession, country, and employment status using separate variables. The

`is_employed` variable (with `True` or `False`) is used to check whether the person is currently employed. When displaying each profile using formatted strings (f-strings), a conditional expression is used to print "yes" if the person is employed, or "no" if not. The program prints all three profiles in a clean and readable format with clear separators for each.

PROGRAM



TASK 3

Discription

This Python program demonstrates the use of different data types and how to convert them. It starts by declaring variables of various types including `string` (name), `integer` (age), `float` (height), `boolean` (is_student), and `complex` (complex_number). It then uses the `type()` function to display the original data types of each variable. In the second part, the code converts each variable into a different data type using casting functions like `str()`, `int()`, `float()`, and `bool()`. Finally, it prints the new data types after conversion to show how the variables have changed.

PROGRAM

datatype.py > ...

```
7   name ="sana "
8   age=21
9   height = 5.4
10  is_student=True
11  complex_number=3+ 4j
12  print ("sana:", type(name))
13  print ("21:",type(age))
14  print ("5.4:",type(height))
15  print ("True :",type(is_student))
16  print ("3+4j:",type(complex_number))
17  print ("--------converted data type----------")
18  #converted data type
19  name_string =str(name)
20  age_int=int(age)
21  height_float=float(height)
22  is_student_bool=bool(is_student)
23  complex_number_str=str(complex_number)
24  print ("name is ",type(name_string))
25  print("age is ",type(age_int))
26  print("height is ",type(height_float))
27  print("is_student is ",type(is_student_bool))
28  print("complext_number is ",type(complex_number_str))
```

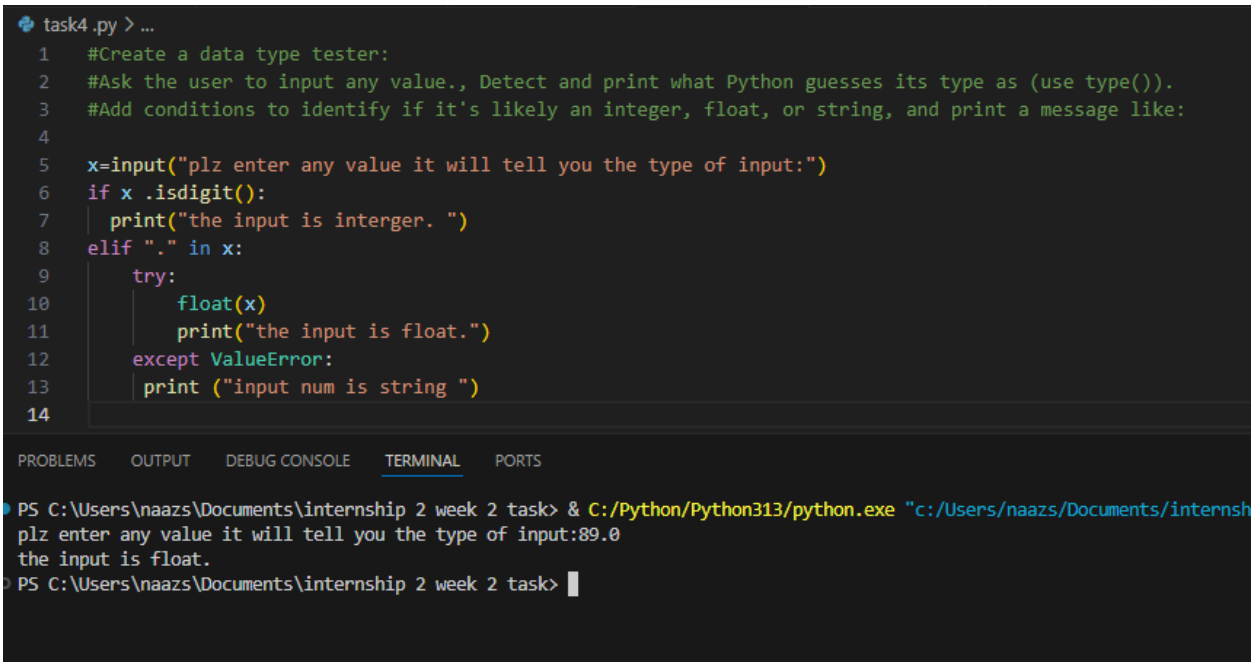
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship 2 week 2 task> & C:/Python/Python313/python.exe
sana: <class 'str'>
21: <class 'int'>
5.4: <class 'float'>
True : <class 'bool'>
3+4j: <class 'complex'>
--------converted data type----------
name is  <class 'str'>
age is  <class 'int'>
height is  <class 'float'>
is_student is  <class 'bool'>
complext_number is  <class 'str'>
PS C:\Users\naazs\Documents\internship 2 week 2 task>
```

TASK4

Dscription

This Python program takes an input from the user and identifies its data type (integer, float, or string). It first checks whether the input contains only digits using the `.isdigit()` method — if true, it classifies the input as an integer. If the input contains a dot `"."`, it then tries to convert it to a float using `float()`. If the conversion succeeds, it prints that the input is a float; otherwise, it catches the `ValueError` and prints that the input is a string. This is a simple type-checking program using conditional statements and exception handling.



TASK 5

Discription

This Python program interacts with the user by taking multiple inputs: their name, favorite food, birth date, favorite number, and favorite language. It uses the `input()` function to collect each response from the user and stores them in separate variables. Finally, it displays a personalized message using **f-string formatting**, combining all the inputs into a single sentence that summarizes the user's details in a neat and readable way.

Program

```python
#Design a command-line survey that:
#Asks the user 5 different questions (e.g., name, favorite food, birth year, favorite number, favorite language)
#Then prints a summary of all responses in sentence format.
#Use formatting to make the output look professional (e.g., f-strings).

name=(input("plz enter your name:"))
food= ( input("plz enter your fav food:"))
birth=(input("plz enter your birth date:"))
fav_num=(input("plz enter your fav number:"))
fav_lang=(input("plz enter your fav language:"))
print(f"your name is {name},and your fav food is {food},your birth date is {birth},your favourite number is {fav_num},and your favourite language
```

```
PS C:\Users\naazs\Documents\internship 2 week 2 task> & C:/Python/Python313/python.exe "c:/Users/naazs/Documents/internship 2 week 2 task/taskfive.py"
plz enter your name:samra
plz enter your fav food: baryni
plz enter your birth date:29-5-2002
plz enter your fav number:8
plz enter your fav language:python
your name is samra ,and your fav food is  baryni,your birth date is 29-5-2002,your favourite number is 8,and your favourite language is python
PS C:\Users\naazs\Documents\internship 2 week 2 task>
```

Task 6

Discretion

This Python program calculates a user's age based on the birth year and current year provided by the user through input. It converts both inputs from strings to integers and calculates the age by subtracting the birth year from the current year. After calculating the age, the program uses an `if-else` condition to check if the user is 18 or older. If the user is under 18, it prints that they are not eligible to vote; otherwise, it prints that they are eligible to vote.

Program

```python
#"You are eligible to vote." or "You are not eligible to vote yet."

birth_year=(input("please enter your birth year:"))
current_year=(input("please enter the current year:"))
age=int(current_year)-int(birth_year)
print (f"your age is {age} year old ")
if age <18:
    print("you are not  eligible for votes")
else:
    print(" you are eligible for votes")
```

```
PS C:\Users\naazs\Documents\internship 2 week 2 task> & C:/Python/Python313/python.exe "c:/Users/naazs/Documents/internship 2 week 2 task/taskfive.py"
plz enter your name:samra
plz enter your fav food: baryni
plz enter your birth date:29-5-2002
plz enter your fav number:8
plz enter your fav language:python
your name is samra ,and your fav food is  baryni,your birth date is 29-5-2002,your favourite number is 8,and your favourite language is python
PS C:\Users\naazs\Documents\internship 2 week 2 task>
```

TASK:7

DISCRIPTION

This Python program calculates the total marks, percentage, and grade of a student based on the marks entered for five subjects. It takes input from the user for each subject, calculates the total by adding all five, and then computes the percentage assuming the total possible marks are 500. Based on the percentage, the program uses an `if-elif-else` structure to assign a grade: "A" for 90% and above, "B" for 80–89%, "C" for 70–79%, and "Fail" for anything below 70%. Finally, it prints the total marks, percentage (rounded to 2 decimal places), and the grade.

```python
subject1 = int(input("Please enter your subject 1 marks: "))
subject2 = int(input("Please enter your subject 2 marks: "))
subject3 = int(input("Please enter your subject 3 marks: "))
subject4 = int(input("Please enter your subject 4 marks: "))
subject5 = int(input("Please enter your subject 5 marks: "))

total_marks = subject1 + subject2 + subject3 + subject4 + subject5
percentage = (total_marks / 500) * 100

# Grade calculation
if percentage >= 90:
    grade = "A"
elif percentage >= 80:
    grade = "B"
elif percentage >= 70:
    grade = "C"
elif percentage >= 60:
    grade = "Fail"
else:
    grade = "Fail"

# Print result (outside if-else)
print(f"\nTotal Marks: {total_marks}")
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\naazs\Documents\internship 2 week 2 task> & C:/Python/Python313/python.exe "c:/Users
Please enter your subject 1 marks: 40
Please enter your subject 2 marks: 50
Please enter your subject 3 marks: 80
Please enter your subject 4 marks: 90
Please enter your subject 5 marks: 50

Total Marks: 310
Your Percentage is: 62.00%
Your Grade is: Fail
PS C:\Users\naazs\Documents\internship 2 week 2 task>
```

Task 8

Description

This Python program performs temperature conversion between Celsius and Fahrenheit. It first asks the user to input a temperature in Celsius, converts it to Fahrenheit using the formula `(C × 9/5) + 32`, and displays the result with two decimal places. Then, it asks for a temperature in Fahrenheit, converts it back to Celsius using the formula `(F - 32) × 5/9`, and prints the converted temperature. The program uses `float()` for handling decimal input and `f-strings` for formatted output.

Program

task8.py > ...

```python
#Create a temperature converter:
#Ask the user to input temperature in Celsius.
#Convert it to Fahrenheit using: F = (C*9/5) +32, Then reverse: Ask for Fahrenheit, convert it to Celsius.

# Celsius to Fahrenheit
celsius = float(input("Please enter the temperature in Celsius: "))
fahrenheit = (celsius * 9/5) + 32
print(f"{celsius:.2f}°C is equal to {fahrenheit:.2f}°F")

# Fahrenheit to Celsius
fahrenheit_input = float(input("\nNow enter the temperature in Fahrenheit: "))
celsius_converted = (fahrenheit_input - 32) * 5/9
print(f"{fahrenheit_input:.2f}°F is equal to {celsius_converted:.2f}°C")

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship 2 week 2 task> & C:/Python/Python313/python.exe "c:/Users/naazs/Documents/internship 2 week 2 task/task8.py"
Please enter the temperature in Celsius: 67
67.00°C is equal to 152.60°F

Now enter the temperature in Fahrenheit: 6.6
6.60°F is equal to -14.11°C
PS C:\Users\naazs\Documents\internship 2 week 2 task>
```