Name: Huma Nisar

Roll Number: TN/IN01/PY/012

WEEK 2 TASKS:

TASK 1:

```python
Full_Name="Huma Nisar"
Age=20
Current_year=2025
Country="Pakistan"
Hobby="Playing games"
Expected_graduation_year=Current_year+4

Years_left=Expected_graduation_year - Current_year

print("Mini Profile")
print("My name is:",(Full_Name))
print("My age is:",(Age))
print("I belong to:",(Country))
print("My hobby is:",(Hobby))
print("Current year:",(Current_year))
print("My expected graduation year:",(Expected_graduation_year))
print("I have years left until graduation:",(Years_left))
```

CODE EXPLANATION:

This code create a mini profile of a person. In this mini profile firstly, I store full name, age, current year, country and hobby .Then calculate when I will graduate by adding years to the current year , it also calculate how many years are left until graduation . In last, it prints all this information in nice format.

OUTPUT:

```
PS C:\Users\Zia Laptop> & "C:/Users/Zia Laptop/AppData/Local/Programs/Python/Python313/python.exe" "d:/Course Studies AI/Third semester/python intership tasks/task
1.py"
Mini Profile
My name is: Huma Nisar
My age is: 20
I belong to: Pakistan
My hobby is: Playing games
Current year: 2025
My expected graduation year; 2029
I have years left until graduation: 4
PS C:\Users\Zia Laptop>
```

TASK 2:

```python
#Profile 1
Name1="Saqib"
Profession1="Engineer"
Country1="Saudi Arabia"
is_employed1=True

#Profile 2
Name2="Aqib"
Profession2="Operations Manager"
Country2="Pakistan"
is_employed2=False

#Profile 3
Name3="Akif"
Profession3="Pharmacist"
Country3="Pakistan"
is_employed3=False

print("Name\t Profession\t Country\t is_employed")
print("------------------------------------------")
print(f"{Name1}\t {Profession1}\t{Country1}\t{is_employed1}")
print(f"{Name2}\t{Profession2}\t{Country2}\t{is_employed2}")
print(f"{Name3}\t{Profession3}\t{Country3}\t{is_employed3}")
```

CODE EXPLANATION:

This code creates a table of three people profile. Each profile include name, profession, country, and whether the person is employed or not. Store this information using variables like name1, profession1 etc. Then using print () function displaying all the information in tabular format.

OUTPUT:

```
Name       Profession      Counrty        is_employed
--------------------------------------------
Saqib      Engineer        Saudi Arabia    True
Aqib       Operations Manager      Pakistan        False
Akif       Pharmasist      Pakistan        False
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 3:

```python
name= "asia"        #string
age = 28            # integer
percentage = 89.5           # float
is_entrolled= True          # boolean
complex_number = 7+ 3j      # complex number

print("DATA TYPES:")
print("Name is", type(name))
print("Age is", type(age))
print("Percentage is", type(percentage))
print("is_enrolled is", type(is_entrolled))
print("Complex_Number is", type(complex_number))

# Simple conversions
print("\nConversions:")
print("Integer 28 to float:", float(age))
print("Float 89.5 to int:", int(percentage))
print("True to int:", int(is_entrolled))
```

CODE EXPLANATION:

In this code, using different data types string, integer, float, boolean, and complex. It uses Type()to display each variable's type. Then it demonstrates type conversions, like turning integers into floats, floats into integers, and booleans into numbers.

OUTPUT:

```
DATA TYPES:
Name is <class 'str'>
Age is <class 'int'>
Percentage is <class 'float'>
is_enrolled is <class 'bool'>
Complex_Number is <class 'complex'>

Conversions:
Integer 28 to float: 28.0
Float 89.5 to int: 89
True to int: 1
Complex number to string: (7+3j)
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 4:

```python
user_input = input("Enter something: ")

try:
    int_value = int(user_input)
    print("You entered an integer.")
    print("Type is:", type(int_value))

# If not integer, try to convert to float
except ValueError:
    try:
        float_value = float(user_input)
        print("You entered a float (decimal number).")
        print("Type is:", type(float_value))

    # If not float, then it's a string
    except ValueError:
        print("You entered text (string).")
        print("Type is:", type(user_input))
```

CODE EXPLANATION:

In this code , we use to find out the data type that what type of input the user has entered .Firstly we allow users to give some input , then it trying to convert it into

integer .If the value is converts successfully then it is integer, If not then it will tries to convert it into other data types.

OUTPUT:

```
Enter something: huma
You entered text (string).
Type is: <class 'str'>
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 5:

```python
name= input("What is your name?")
food= input("What is your favorite food?")
birth_year= input("What is your birth year?")
favorite_number= input("What is your favorite number?")
favorite_language= input("What is your favourite language?")

summary=f"\n{name} loves to eat {food}.They were born in {birth_year}.Their
favorite number is {favorite_number} and they like the {favorite_language}
language"
print(summary)
```

CODE EXPLANATION:

In this code ,we ask users five questions, name, food, birth year, favorite number, favorite language. By using f-string formatting all the information put together into a short summary sentence and in last by using print statement print summary.

OUTPUT:

```
What is your name?Umaima
What is your favorite food?Noodles
What is your birth year?2006
What is your favorite number?14
What is your favourite language?German

Umaima loves to eat Noodles.They were born in 2006.Their favorite number is 14 and they like the German language
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 6:

```python
birth_year=input("Enter your year of birth")
birth_year=int(birth_year)
current_year=2025
```

```
age=current_year-birth_year
print(f"You are(age)years old.")

if age>=18:
    print("You are eligible to vote.")
else:
    print("You are not eligible to vote yet.")
```

CODE EXPALNATION:

In this program, I asked the user to type their birth year. Then I changed that input into a number using int(). After that, I subtracted the birth year from the current year (2025) to find out their age. I used an f-string to show the age in a nice sentence. Then I added a condition: if the age is 18 or more, the program says you can vote. If it's less than 18, it says you're not allowed to vote yet.

OUTPUT:

```
Enter your year of birth20
You are(age)years old.
You are eligible to vote.
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 7:

```
#Marks of 5 subjects
sub1 = int(input("Enter marks for Subject 1: "))
sub2 = int(input("Enter marks for Subject 2: "))
sub3 = int(input("Enter marks for Subject 3: "))
sub4 = int(input("Enter marks for Subject 4: "))
sub5 = int(input("Enter marks for Subject 5: "))

# Calculate
total = sub1 + sub2 + sub3 + sub4 + sub5
percentage = total/ 5

#Result
print("Total Marks=",total)
```

```python
print(f"Percentage=",percentage)

# Grades
if percentage >= 90:
    print("Grade: A")
elif percentage >= 80:
    print("Grade: B")
elif percentage >= 70:
    print("Grade: C")
else:
    print("Grade: Fail")
```

CODE EXPLANATION:

In this program, I asked the user to enter marks for 5 subjects. Then I added all the marks to get the total, and divided the total by 5 to find the percentage. After showing the total and percentage, I used if-else conditions to check what grade the student got. If the percentage is 90 or above, it gives Grade A, if it's 80 or above then Grade B, if 70 or above then Grade C, otherwise it shows Fail. This is a basic result calculator using simple math and conditions in Python.

OUTPUT:

```
Enter marks for Subject 1: 78
Enter marks for Subject 2: 54
Enter marks for Subject 3: 98
Enter marks for Subject 4: 77
Enter marks for Subject 5: 64
Total Marks= 371
Percentage= 74.2
Grade: C
PS D:\Course Studies AI\Third semester\python intership tasks>
```

TASK 8:

```python
# Ask user to enter temperature in Celsius
```

```
celsius = float(input("Enter temperature in Celsius: "))

# Convert to Fahrenheit
fahrenheit = (celsius * 9/5) + 32
print("Temperature in Fahrenheit:", fahrenheit)

# Now ask for Fahrenheit and convert to Celsius
fahrenheit_input = float(input("Enter temperature in Fahrenheit: "))

# Convert to Celsius
celsius_converted = (fahrenheit_input - 32) * 5/9
print("Temperature in Celsius:", celsius_converted)
try:
    celsius = float(input("Enter temperature in Celsius: "))
    fahrenheit = (celsius * 9/5) + 32
    print("Temperature in Fahrenheit:", fahrenheit)

    fahrenheit_input = float(input("Enter temperature in Fahrenheit: "))
    celsius_converted = (fahrenheit_input - 32) * 5/9
    print("Temperature in Celsius:", celsius_converted)

except ValueError:
    print("Please enter a valid number!")
```

CODE EXPLANATION:

This program asks the user to enter a temperature in Celsius and then converts it into Fahrenheit using a simple formula. After that, it asks for a temperature in Fahrenheit and converts it back to Celsius. To make sure the user enters a valid number, I used a try-except block — so if someone types text instead of a number, it will show an error message instead of crashing.

OUTPUT:

```
Enter temperature in Celsius: 45
Temperature in Fahrenheit: 113.0
Enter temperature in Fahrenheit: 23
Temperature in Celsius: -5.0
```