Understanding input(), text formatting, operations on data in Python

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**Multiple Choice Questions (MCQs)**

1. What does the `input()` function in Python do?

   a. Prints output to the screen

   b. Calculates mathematical operations

   c. Takes user input as a string

   d. Creates a new file

Answer: option(c)

2. Which operator is used for exponentiation in Python?

   a. %

   b. \*\*

   c. //

   d. ^

Answer: option(b)

3. What is the output of `10 / 3` in Python?

   a. 3

   b. 3.33

   c. 3.0

   d. "10 / 3"

Answer: option(b)

4. Which of the following is NOT a valid Python data type?

   a. int

   b. string

   c. boolean

   d. perform

Answer: option(d)

5. Which operator checks for equality between two values?

   a. ==

   b. !=

   c. <=

   d. >

Answer: option(a)

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**Fill in the Blanks**

1. The `print()` function is used to print something on the console in Python.

2. In Python, `7 // 3` results in `**2**`.

3. A `**boolean**` data type can only have the values True or False.

4. The symbol `**%**` is used for the modulus operation in Python.

5. To concatenate two strings in Python, the `**+**` operator is used.

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**True or False**

1. The `input()` function always returns an integer value. -> False

2. Python uses the `=` symbol for both assignment and equality checking. -> False

3. The expression `"Python" == "python"` evaluates to True -> False.

4. In Python, `8 \* 3` results in `24`. -> True

5. The expression `5 > 3 and 5 < 10` will return False. -> False

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**Match the Columns**

|  |  |
| --- | --- |
| **Column A** | **Column B** |
| a. `input()` | i. Division |
| b. `==` | ii. User input |
| c. `!=` | iii. Equality |
| d. `/` | iv. Inequal |

Answer :-

a : ii

b : iii

c : iv

d : i

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**Theory Questions**

1. Explain the difference between `=` and `==` in Python.

Answer: The ‘=’ operator is the assignment operator which is used to assign values to variables It creates or modifies a variable to hold that value. Whereas, the ‘==’ operator is the equality operator which has the function of comparing two values of being equal to each other. It returns ‘True’ if they are same and ‘False’.

2. Describe how a Python program executes on a computer.

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**Practical Coding Questions**

**1. Daily Steps Tracker:** Write a Python program that asks the user to enter the number of steps they walked each day for a week. After entering seven numbers, the program should calculate and display the total number of steps walked in the week.

Source Code:

def Steps\_Tracker(D1, D2, D3, D4, D5, D6, D7):

steps = D1 + D2 + D3 + D4 + D5 + D6 + D7

print("Your weekly step count is : ", steps)

if steps < 60000:

print("Your Weekly Step Count is lower than average, I suggest you should walk more for your proper health.")

#main():

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Welcome to the StepTracker\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

print("Please enter the number of steps you walked each day as follows:- ")

D1 = int(input("Enter the number of steps you walked on Day 1: "))

D2 = int(input("Enter the number of steps you walked on Day 2: "))

D3 = int(input("Enter the number of steps you walked on Day 3: "))

D4 = int(input("Enter the number of steps you walked on Day 4: "))

D5 = int(input("Enter the number of steps you walked on Day 5: "))

D6 = int(input("Enter the number of steps you walked on Day 6: "))

D7 = int(input("Enter the number of steps you walked on Day 7: "))

Steps\_Tracker(D1, D2, D3, D4, D5, D6, D7)

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**2. Grade Calculator:** Create a Python program that asks for a student's marks in three subjects (out of 100). The program should calculate the average mark and print the corresponding grade based on the average (A for 90 and above, B for 80-89, C for 70-79, D for 60-69, and F for below 60).

Source Code:

def Grading\_System(M\_1,M\_2,M\_3):

avg\_marks = (M\_1 + M\_2 + M\_3)/3

if avg\_marks >= 90:

print("Your grade is : A")

return

elif avg\_marks >= 80:

print("Your grade is : B")

return

elif avg\_marks >= 70:

print("Your grade is : C")

return

elif avg\_marks >= 60:

print("Your grade is : D")

return

else:

print("Your grade is : F")

return

def main():

print("Welcome to the Grade Calculator")

print("Enter your marks in 3 subjects")

M\_1 = int(input("Enter your marks in subject 1: "))

M\_2 = int(input("Enter your marks in subject 2: "))

M\_3 = int(input("Enter your marks in subject 3: "))

Grading\_System(M\_1, M\_2, M\_3)

main()

----------------------------------------------------------------------------------------------------------------**3. Currency Converter:** Write a Python code that converts US dollars to Euros. The program should ask the user to input the amount in US dollars and use a conversion rate of 1 USD = 0.85 Euros to convert and display the amount in Euros.

Source Code:

def Converter(USD):

Euros = USD \* 0.85

print("The amount in Euros is: ", Euros)

def main():

print("Welcome to the Currency Converter")

USD = float(input("Enter the amount in US dollars which you want in Euros: "))

Converter(USD)

main()

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**4. Time Converter:** Create a program in Python that asks the user to input time in seconds and then converts it into hours.. For example, 3665 seconds should be converted to 1 hour.

Source Code:

time = int(input("Enter time in seconds: "))

time\_in\_hours = time/3600

print("The time in hours is: " ,time\_in\_hours)

Submitted By- Maulik Gupta

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