WEEK-01-MCQ-Variables,Datatypes

1.Which one of the following is the correct way to format the string?
name = " Vijay"
age = 31
print("My name is {} and I am {} years old.".format(name, age))
a)My name is (name) and I am (age) years old.
b) My name is d and I am d years old.
c) My name is Vijay and I am 31 years old.
d) What would be the output if Vijay and 31 years old.

2.Which function converts a value to an integer in Python?
a) str() b) int() c) float() d)
bool()

3.What will be the return type of the input() function?
a) Integer b) String c) Boolean d)Float

4.Which function is used to print a message in Python?
a) print() b) show() c) display() d) echo()

5.The code to get input from the keyboard. (No need to assign to a variable)
Answer:

6.Which of the following is correct syntax to output ‘Hello Python’ in Python?
a) print(“Hello Python”) b) echo “Hello Python” c) which(“Hello Python”) d) echo(“Hello Python”)

7.What will be the output of the following python Code:
mystring=‘India is my country’
print(mystring[::2])
a) str b) ‘str’ c) <class ‘str’> d) class str

8.What will be the output of str(‘Hello’)?
a) ‘Hello’ b) <class ‘bool’> c) <class ‘int’> d) <class ‘str’>

9.Which function would you use to get a Boolean value?
a) str() b) int() c) bool() d) float()

10.Which of the following functions is a built-in function in python language?
a)val() b) print() c) printf() d)scanf()

11. one of the following is the correct extension of the Python file?
a) .pyth b) .python c) .cpp d) .p

12.Which of the following is a correct syntax to output “Hello Python” in Python?
a)echo “Hello Python” b) print(“Hello Python”)
c) print: “Hello Python” d)echo(“Hello Python”)

13.What do we use to define a block of code in the Python language?
a) Indentation b)curly Braces c)Parenthesis d)Key

14.What is the correct syntax to create a variable in Python?
a) var name : “value” b) name := “value”
c)var name = “value” d) name = “value”

15.Which Python method can be used to format strings?
a) string_format() b) format() c) format_string() d) str_format()

WEEK-01-CODING-Variables, Datatypes

1.You went on a tour to Ooty with your friends. As a part of the tour, you went boating with them. For the boat to remain stable, the number of people on one boat is restricted based on the weight of the people. You find that the boatman who is sailing your boat is so much greedy of money. For earning more, he takes too many people to travel in the boat at a time. So you want to check how many people can travel in the boat at a time so that the boat will not drown. Calculate the weight by considering the number of adults and number of children. Assume that an adult weighs 75 kg and children weigh 30 kg each. If the weight is normal, display Boat is stable, else display Boat will drown.

INPUT & OUTPUT FORMAT:

Input consists of 3 integers.

First input corresponds to the weight that the boat can handle.

Second input corresponds to the number of adults.

Third input corresponds to the number of children.

Program:

```
b=int(input())
a=int(input())
c=int(input())
wa=75
wc=30
tw=a*wa
tc=c*wc
tot=tw+tc
if tot <=b:
   print("Boat is stable")
else:
   print("Boat will drow")
```

Output:

	Input	Expected	Got	
✓	340 2 3	Boat is stable	Boat is stable	✓
✓	600 7 4	Boat will drow	Boat will drow	✓

Passed all tests! ✓

2. Alfred buys an old scooter for Rs. X and spends Rs. Y on its repairs. If he sells the scooter for Rs. Z (Z>X+Y). Write a program to help Alfred to find his gain percent. Get all the above-mentioned values through the keyboard and find the gain percent.

Input Format:

The first line contains the Rs X

The second line contains Rs Y

The third line contains Rs Z

Sample Input:

10000

250

15000

Sample Output:

46.34 is the gain percent.

For example:

Input	Result
45500 500 60000	30.43 is the gain percent.

Program:

```
x=float(input())
y=float(input())
z=float(input())
tot=x+y
gain=z-tot
g=(gain/tot)*100
print(f"{g:.2f} is the gain percent.")
```

Output:

	Input	Expected	Got	
✓	10000 250 15000	46.34 is the gain percent.	46.34 is the gain percent.	✓
✓	45500 500 60000	30.43 is the gain percent.	30.43 is the gain percent.	✓
✓	5000 0 7000	40.00 is the gain percent.	40.00 is the gain percent.	✓
✓	12500 5000 18000	2.86 is the gain percent.	2.86 is the gain percent.	✓

Passed all tests! ✓

3. In a Logistic the Parcels to be delivered in 4 locations (1st locaion 20%, 2nd location 40%, 3rd location 30% and 4th location 10%). write a python code to find the total no. of parcels after the delivery in 2 locations . use a format() to print the no of parcels delivered in in each location

Input:

250

output:

Total Parcels is 250

1st Location 50 parcels

2nd Location 100 parcels

3rd Location 75 parcels

4th Location 25 parcels

Program:

```
tot=int(input())
```

```
p=[20,40,30,10]
p1=tot*p[0]/100
p2=tot*p[1]/100
p3=tot*p[2]/100
p4=tot*p[3]/100
print("Total Parcels is {}".format(tot))
print("1st Location {} parcels".format(int(p1)))
print("2nd Location {} parcels".format(int(p2)))
print("3rd Location {} parcels".format(int(p3)))
print("4th Location {} parcels".format(int(p4)))
```

Output:

	Input	Expected	Got	
✓	250	Total Parcels is 250 1st Location 50 parcels 2nd Location 100 parcels 3rd Location 75 parcels 4th Location 25 parcels	Total Parcels is 250 1st Location 50 parcels 2nd Location 100 parcels 3rd Location 75 parcels 4th Location 25 parcels	✓

Passed all tests! ✓

4. Justin is a carpenter who works on an hourly basis. He works in a company where he is paid Rs 50 for an hour on weekdays and Rs 80 for an hour on weekends. He works 10 hrs more on weekdays than weekends. If the salary paid for him is given, write a program to find the number of hours he has worked on weekdays and weekends.

Hint:

If the final result(hrs) are in -ve convert that to +ve using abs() function

The `abs()` function returns the absolute value of the given number.

```
number = -20
absolute_number = abs(number)
print(absolute_number)
# Output: 20
```

Sample Input:

450

Sample Output:

weekdays 10.38

weekend 0.38

For example:

Input	Result
450	weekdays 10.38 weekend 0.38

Program:

```
ts=int(input())
a=50
b=80
x=(ts-500)/130
if x<0:
    x=abs(x)
c=x+10
d=x
print(f"weekdays {c:.2f}")
print(f"weekend {d:.2f}")
```

Output:

	Input	Expected	Got	
✓	450	weekdays 10.38 weekend 0.38	weekdays 10.38 weekend 0.38	✓
✓	500	weekdays 10.00 weekend 0.00	weekdays 10.00 weekend 0.00	✓
✓	10000	weekdays 83.08 weekend 73.08	weekdays 83.08 weekend 73.08	✓
✓	6789	weekdays 58.38 weekend 48.38	weekdays 58.38 weekend 48.38	✓

Passed all tests! ✓

5. In a Lab 36% are Dell and 34% Lennovo and 28% are Acer and 2% are Samsung. write a python code to print total systems and brand wise count in the specific format using sep operator.

input: 150

output: Total System:150

Dell:54

Lennovo:51

Acer:42

Samsung:3

Program:

```
t=int(input())
d=(36/100)*t
l=(34/100)*t
a=(28/100)*t
s=(2/100)*t
print(f"Total System:{t}",f"Dell:{int(d)}",f"Lennovo:{int(l)}",f"Acer:{int(a)}",f"Samsung:{int(s)}",sep='\n')
```

Output:

	Input	Expected	Got	
✓	150	Total System:150 Dell:54 Lennovo:51 Acer:42 Samsung:3	Total System:150 Dell:54 Lennovo:51 Acer:42 Samsung:3	✓

Passed all tests! ✓

6. In many jurisdictions, a small deposit is added to drink containers to encourage people to recycle them. In one particular jurisdiction, drink containers holding one liter or less have a $0.10 deposit and drink containers holding more than one liter have a $0.25 deposit. Write a program that reads the number of containers of each size(less and more) from the user. Your program should continue by computing and displaying the refund that will be received for returning those containers. Format the output so that it includes a dollar sign and always displays exactly two decimal places.

Sample Input

10

20

Sample Output

Your total refund will be $6.00.

For example:

Input	Result
20 20	Your total refund will be $7.00.

Program:

```
a=int(input())
b=int(input())

x=0.10
y=0.25
tot=(a*x+b*y)
print(f"Your total refund will be ${tot:.2f}.")
```

Output:

	Input	Expected	Got	
✓	20 20	Your total refund will be $7.00.	Your total refund will be $7.00.	✓
✓	11 22	Your total refund will be $6.60.	Your total refund will be $6.60.	✓
✓	123 200	Your total refund will be $62.30.	Your total refund will be $62.30.	✓
✓	76 38	Your total refund will be $17.10.	Your total refund will be $17.10.	✓

Passed all tests! ✓

	Input	Expected	Got	
✓	20 20	Your total refund will be $7.00.	Your total refund will be $7.00.	✓
✓	11 22	Your total refund will be $6.60.	Your total refund will be $6.60.	✓
✓	123 200	Your total refund will be $62.30.	Your total refund will be $62.30.	✓
✓	76 38	Your total refund will be $17.10.	Your total refund will be $17.10.	✓

Passed all tests! ✓

7. Write a program to convert strings to an integer and float and display its type.

Sample Input:

10

10.9

Sample Output:

10,<class 'int'>

10.9,<class 'float'>

For example:

Input	Result
10 10.9	10,<class 'int'> 10.9,<class 'float'>

Program:

```
a=int(input())
b=float(input())
print(f"{a},{type(a)}")
print(f"{round(b,1)},{type(b)}")
```

Output:

	Input	Expected	Got	
✓	10 10.9	10,<class 'int'> 10.9,<class 'float'>	10,<class 'int'> 10.9,<class 'float'>	✓
✓	12 12.5	12,<class 'int'> 12.5,<class 'float'>	12,<class 'int'> 12.5,<class 'float'>	✓
✓	89 7.56	89,<class 'int'> 7.6,<class 'float'>	89,<class 'int'> 7.6,<class 'float'>	✓
✓	55000 56.2	55000,<class 'int'> 56.2,<class 'float'>	55000,<class 'int'> 56.2,<class 'float'>	✓
✓	2541 2541.679	2541,<class 'int'> 2541.7,<class 'float'>	2541,<class 'int'> 2541.7,<class 'float'>	✓

Passed all tests! ✓

8. Write a program that returns the second last digit of the given number. Second last digit is being referred 10the digit in the tens place in the given number.

For example, if the given number is 197, the second last digit is 9.

Note1 - The second last digit should be returned as a positive number. i.e. if the given number is -197, the second last digit is 9.

Note2 - If the given number is a single digit number, then the second last digit does not exist. In such cases, the program should return -1. i.e. if the given number is 5, the second last digit should be returned as -1

For example:

Input	Result
197	9
-197	9
5	-1

Program:

```
inp=int(input())
n=str(abs(inp))
if len(n)<2:
   print("-1")
else:
      r=int(n[-2])
      print(r)
```

Output:

	Input	Expected	Got	
✓	197	9	9	✓
✓	-197	9	9	✓
✓	5	-1	-1	✓

Passed all tests! ✓

9. Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of his basic salary, and his house rent allowance is 20% of his basic salary. Write a program to calculate his gross salary.

Sample Input:

10000

Sample Output:

16000

For example:

Input	Result
10000	16000

Program:

```
tot = int(input())

a = tot*40/100

b = tot*20/100

c=tot+a+b

print(c)
```

Output:

	Input	Expected	Got	
✓	10000	16000	16000.0	✓
✓	20000	32000	32000.0	✓
✓	28000	44800	44800.0	✓
✓	5000	8000	8000.0	✓

Passed all tests! ✓

10. In department 54% are boys and 46% are girls and 8% are hostel (boys/girls). write a python code to print total no of boys, girls and hostel students in the specific format using modulo operator.

input: 1500

output: Total Students : 1500, Boys : 810, Girls : 690, Hostel : 120

Program:

```
tot=int(input())

b=tot*54/100
g=tot*46/100
h=tot*8/100

print(f"Total Students : {tot}, Boys : {int(b)}, Girls : {int(g)}, Hostel : {int(h)}")
```

Output:

	Input	Expected
✓	1500	Total Students : 1500, Boys : 810, Girls : 690, Hostel : 120

Passed all tests! ✓

Got	
Total Students : 1500, Boys : 810, Girls : 690, Hostel : 120	✓