WORKSHEET 2 PYTHON

Q1 to Q7 have only one correct answer. Choose the correct option to answer your question.

1. Which of the following is not a core datatype in python?

A) list

B) struct

C) tuple

D) set

2. Which of the following is an invalid variable name in python?

A) _init_

B) no_1

C) 1_no

D) _1

3. Which one of the following is a keyword in python?

A) in

B) _init_

C) on

D) foo

4. In which of the following manner are the operators of the same precedence executed in python?

A) Left to Right

B) BODMAS

C) Right to Left

D) None of these

5. Arrange the following in decreasing order of the precedence when they appear in an expression in python?

i) Multiplication

ii) Division

iii) Exponential

iv) Parentheses

A) iii – iv – ii – i

B) iii – iv – i – ii

C) iv – iii – ii – i

D) iii – ii – i – iv

6. (28//6)**3/3%3 = ?

A) 7.1111…

B) 0

C) 0.3333…

D) 1

7. a = input(“Enter an integer”). What will be the data type of a?

A) int

B) str

C) float

D) double

Q8 and Q10 have multiple correct answers. Choose all the correct options to answer your question.

8. Which of the following statements are correct?

A) Division and multiplication have same precedence in python

B) Python’s operators’ precedence is based on PEDMAS

C) Python’s operators’ precedence is based on VBODMAS

D) In case of operators’ having the same precedence, the one on the left side is executed first.

9. Which of the following is(are) valid statement(s) in python?

A) abc = 1,000,000

B) a b c = 1000 2000 3000

C) a,b,c = 1000, 2000, 3000

D) a_b_c = 1,000,000

10. Which of the following is not equal to x16 in python?

A) x**4**4

B) x**16

C) x^16

D) (x**4)**4

Q11 to Q13 are subjective questions, answer them briefly

11. Differentiate between a list, tuple, set and dictionary.

Answer:- In Python, there are four built-in collection data types: list, tuple, set, and dictionary. Here are the differences between them:

List:

1: A list is an ordered, mutable collection of objects.

2: Lists are created using square brackets [] or the list() function.

3: Lists allow duplicates and can contain objects of different data types.

4: Lists can be modified by adding, removing, or changing elements.

5: Lists are commonly used to store and manipulate sequences of data.

Tuple:

1: A tuple is an ordered, immutable collection of objects.

2: Tuples are created using parentheses () or the tuple() function.

3: Tuples allow duplicates and can contain objects of different data types.

4: Tuples cannot be modified once they are created.

5: Tuples are commonly used to represent fixed collections of data.

Set:

1: A set is an unordered, mutable collection of unique objects.

2: Sets are created using curly braces {} or the set() function.

3: Sets do not allow duplicates and can contain objects of different data types.

4: Sets can be modified by adding or removing elements.

5: Sets are commonly used to perform mathematical operations like union, intersection, and difference.

Dictionary:

1: A dictionary is an unordered, mutable collection of key-value pairs.

2: Dictionaries are created using curly braces {} or the dict() function.

3: Keys in dictionaries must be unique and immutable (strings, numbers, or tuples).

4: Values in dictionaries can be of any data type.

5: Dictionaries can be modified by adding, removing, or changing key-value pairs.

6:Dictionaries are commonly used to represent data with a key-value relationship.

12. Are strings mutable in python? Suppose you have a string “I+Love+Python”, write a small code to replace ‘+’ with space in python.

Answer:- No, strings are immutable in Python, which means that once a string is created, its contents cannot be changed. However, it is possible to create a new string with the desired modifications.

Here's an example code to replace '+' with space in the given string "I+Love+Python":

```
original_string = "I+Love+Python"
```

```
new_string = original_string.replace("+", " ")

print(new_string)
```

output:-

I Love Python

In this code, we first define the original string "I+Love+Python". Then we create a new string by calling the replace() method on the original string, passing the old and new values as arguments. Finally, we print the new string, which is the same as the original string but with all instances of '+' replaced with a space.

13. What does the function ord() do in python? Explain with an example. Also, write down the function for getting the data type of a variable in python.

Answer:- In Python, the ord() function is used to return the Unicode code point of a given character. Unicode is a standard that assigns a unique number to every character in every language, which makes it possible to represent and handle text in a consistent and portable way.

Here's an example of using the ord() function to get the Unicode code point of the letter 'A':

Code:-

```
code = ord('A')

print(code)
```

Output:

Code:-

65

In this code, we call the ord() function with the argument 'A', which is a string representing a single character. The ord() function returns an integer representing the Unicode code point of that character, which in this case is 65.

To get the data type of a variable in Python, we can use the type() function. Here's an example:

Code:-

```
a = 5

b = "hello"

c = [1, 2, 3]


print(type(a))  # output: <class 'int'>

print(type(b))  # output: <class 'str'>

print(type(c))  # output: <class 'list'>
```

In this code, we define three variables a, b, and c with different data types (integer, string, and list). We then call the type() function on each variable to print its data type. The type() function returns a type object, which represents the data type of the variable.

Q14 and Q15 are programming questions. Answer them in Jupyter Notebook.

14. Write a python program to solve a quadratic equation of the form ax^2+bx+c=0. Where a, b and c are to be taken by user input. Handle the erroneous input, such as ‘a’ should not be equal to 0.

15. Write a python program to find the sum of first ‘n’ natural numbers without using any loop. Ask users to input the value of ‘n’