1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

Answer:

\* Expression

'hello' Value

-87.8 Value

- Expression

/ Expression

* Expression

6 Value

2. What is the difference between string and variable?

Answer:A string is a datatype which can be any characters enclosed within single or double quotes. It is a value. Example : “Mohan is my name 😊 “

A variable is something which holds any values when defined and assigned. A variable can hold a string also as its value. It can hold an integer, floating value, string, complex numbers etc. Example: a=10 #a is a variable which holds an integer value 10.

3. Describe three different data types.

Answer: Integer : Example : a=10

Here the variable a is of integer data type since it holds an integer value

String : Example : b=”Hello how are you?”

Here the variable b is of string data type since it holds a string value enclosed within quotes.

Complex : Example : c=”5 + 9j”

Here the variable c is of complex data type since it holds a complex value. Only the letter “j” can be used in complex data types.

4. What is an expression made up of? What do all expressions do?

Answer: An expression is made up of values, variables and operators. All expressions produce a value or a result after computation. Example : 2+5 , a\*b , c/d

5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

Answer: Expressions perform some operations and computations and finally results in a value.

Suppose the value is 10. In above statement 10 is assigned to spam variable. It is an assignment statement. A statement can contain many expressions.

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

Answer: After running the above, the value of bacon will remain 22.

Whereas the value of the expression bacon+1 will be 23. It is not assigned to any other variable here.

7. What should the values of the following two terms be?

'spam' + 'spamspam' == ‘spamspamspam’

'spam' \* 3 == ‘spamspamspam’

8. Why is eggs a valid variable name while 100 is invalid?

Answer: Because a variable name has to always start with an alphabet or underscore \_. It cannot start with a number.

9. What three functions can be used to get the integer, floating-point number, or string version of a value?

Answer:

a=22

int(a) will give integer version of the value of variable a == 22

float(a) will give floating point version of the value of variable a ==22.0

str(a) will give string version of the value of variable a == ‘22’

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 + ' burritos.'

Answer: It causes a TypeError . Because we are trying to perform an operation here on different data types string and integer. We need to type cast 99 to string type.

'I have eaten ' + str(99) + ' burritos.'

Output: 'I have eaten 99 burritos.'