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' | values |
| -87.8 | values |
| - | expression |
| / | expression |
| + | expression |
| 6 | values |

**2. What is the difference between string and variable?**

**Answer:**

Variables are symbols that you can use to store data in a program. You can think of them as an empty box that you fill with some data or value. Strings are data, so we can use them to fill up a variable. Declaring strings as variables can make it easier for us to work with strings throughout our Python programs.

**3. Describe three different data types.**

**Answer**:

|  |  |  |
| --- | --- | --- |
| **Data Types** | **Classes** | **Description** |
| String | str | holds sequence of characters |
| Sequence | list, tuple, range | holds collection of items |
| Mapping | dict | holds data in key-value pair form |
| Boolean | bool | holds either True or False |

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

**Answer:**

A combination of operands and operators is called an expression. The expression in Python produces some value or result after being interpreted by the Python interpreter. An expression in Python is a combination of operators and operands.

An example of expression can be : x = x + 1 0 x = x + 10 x=x+10

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

**Answer:**

An Expression can be assigned or used as operands, while statements can only be declared. Statements create side effects to be useful, while expressions are values or execute to values

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

**bacon = 22**

**bacon + 1**

**Answer:**

The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1)

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

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

Both expressions evaluate to the string 'spamspamspam'

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

**Answer:**

Variable names cannot begin with a number.

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

**Answer:**

The int(), float(), and str() functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

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

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

**Answer:**

The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.'.