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.**

**ANS:**

\* = Expression

'hello' = Value (str)

-87.8 = Value (Float)

- = Expression

/ = Expression

+ = Expression

6 = Value (int)

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

**ANS**: Variable is a letter or a word that can store data or value in Program. Variable name do not contain any Special Character @ # $ % ^ & \* ( ).

String is the word, name, or non-Numeric Value assigned to a variable.

That can be name, place or anything…

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

ANS:

1. Numeric Data type–

Numeric data type is used to hold numeric values.

The numeric data types are of three types

* + Int (): This holds signed integers of unlimited length
  + Float (): This holds floating decimal points.
  + Complex (): This holds complex numbers.

Example:

|  |  |  |
| --- | --- | --- |
| num1 = 5  print(type(num1))  >> int | num1 = 5.0  print(type(num1))  >> float | num1 = 5 + 6p  print(type(num1))  >> complex |

1. List Data type

List is an order of similar or different types of items separated by commas and enclosed within brackets [ ].

Example: languages = [“Engils”, ‘Hindi”, “Marathi”, ‘Kannada”]

1. Tuple Data type

Tuple is an ordered sequence of items same as a list. The only difference is that tuples are immutable. Tuples once created cannot be modified. The parentheses () used to store items of a tuple.

Example: car = (‘i10’, ‘i20’, ‘XUV500‘, ‘Swift’)

1. String Data type

String is a sequence of characters represented by either single or double quotes.

Example:

name = ‘Python’

message = “Python for Data Science”

print(name)

print(message)

>> Python

Python for Data Science

1. Set Data type

Set is an unordered collection of unique items. Set is defined by values separated by commas inside braces { }.

Example:

student\_id = {112, 114, 116, 118, 115}

1. Boolean Data type

Boolean data type holds either true or False.

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

**ANS:** An expression is a combination of operators and operands. Expression made up of values, variables, operators, call to functions and mathematical operations.

The expression evaluates value or some result.

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

ANS: An Expression Evaluates to a value or result. A statement cant do it.

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

**bacon = 22**

**bacon + 1**

**ANS**: bacon = 23

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

**ANS:**

**'spam' + 'spamspam' =** spamspamspam

**'spam' \* 3 =** spamspamspam

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

**ANS:**The Variable is never start with or begin with number cause of

this eggs is a valid variable name and 100 is not.

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

**ANS:** The function used for integer is **int ().**

Function Used for floating-point number **float ()**.

Function Used for string version of a value **str ().**

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

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

**ANS:**

In the given expression cause an error because 99 is an integer, and only string can connect to other string.

The Correct way to write this expression is:

‘I have eaten’ + str (99) + ‘burritos’