

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 :**     \* = This is Arithmetic Operator , used for multiplication

'Hello' = This is a String

-87.8 = This is a Float or Double (signed) type

- = This is Arithmetic Operator, used for subtraction

/ = This is Arithmetic Operator, used for division

+ = This is Arithmetic Operator, used for addition

6 = This is an Integer type

2. What is the difference between string and variable?

**ANS :** A variable is a container , which can store any type of value .To use string data type we have to use inverted commas “ ” for variable we just have to specify the number. For Example:

name = “Eshwar”

Here name is container , consisting of value of string type.

3. Describe three different data types.

**ANS:** The different data types available in python are Number( int / float) ,Tuple , List , Dictionary , Set & String.

1. **List :** A list is a collection of elements that belongs to different data types like int, float, string, list, etc . For list we use square brackets [ ]. List are ordered and changeable and list also allows duplicates of elements.
2. **Tuple :** A tuple only allows data of a similar type . For tuple we use ( ) brackets. They are ordered and also they are mutable, meaning we cant change tuple once created and they also allows duplicates.
3. **Dictionary :** Dictionary is used to store the data in a key-value pair format. Dictionary are ordered and and changeable , and they dont allows duplicates.

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

**ANS :** Expression is a combination of operators and operands that is interpreted to produce some other value. If there is more than one operator in an expression, their precedence decides which operation will be performed first.

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

**ANS :** Expression only contain identifiers, literals and operators, where operators include arithmetic and boolean operators, the function call operator `()` the subscription operator `[]` and similar, and can be reduced to some kind of "value", which can be any Python object.

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

```
bacon = 22
```

```
bacon + 1
```

**ANS :** 23

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

```
'spam' + 'spamspam'
```

```
'spam' * 3
```

**ANS :** 'spamspamspam'

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

**ANS:** The name of variable can't begin with the numbers, neither integer nor a float

Example : `age_30` (valid) and `30_age` (invalid)

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

**ANS :** Function `int()` for string , `float()` for float and `str()` for string , respectively.

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

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

**ANS :** If we want to make this expression error free then we have to make the number 100 as as string . The solution is

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