**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.**

**\***

**'hello'**

**-87.8**

**-**

**/**

**6**

**Ans.**

In the above elements [\*, - , / , +] are the expressions and [-87.8, 6, 'hello'] are the values.

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

**Ans.**

String - a string is a type of data/information that we can store in a variable.

Variable - a variable is a memory space where we can store data of any type.

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

**Ans.**

List: -

* A list is an ordered collection of heterogeneous elements.
* list is mutable. i.e we can add, remove or change any value in a list.
* ex- [1,2,3,'abc', 'x', 'y',12.3, -52]

Tuple :-

* tuple is same as list but the difference is that a tuple is immutable.
* once a tuple is created, we can't update.
* item re-assignment is also not possible in a tuple
* when we know that our data is not going to change then we use tuple and tuple is faster than list.
* ex- days = ('Sunday', 'Monday', 'Tuesday')

Dictionary: -

* a dictionary is an unordered collection of data values, used to store data values in a key value pair.
* key-value is provided in the dictionary to make optimised.
* we can directly access a value in a dictionary by providing its key name.
* ex- user = {'name':'Subodh', 'age’: 24, 'height': 4.8}

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

**Ans.**

* An expression is a combination of values, variables, operators, and calls to functions.
* if we call a function then the expression inside that function gets evaluated and gives us the result.
* **ex-** x + y - z here + and - are operators and x, y and z are the values.

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

**Ans.**

An expression evaluates to get a value but a statement refers to perform a specific action.

In the above statement **spam = 10**, it assigns a value to the variable spam but does not evaluate anything.

here are the examples of some statement

print() ---------------> it prints some values.

x + 2 -----------------> an expression

x = 1 -----------------> a statement

y = x + 1 ------------> a statement

print y ---------------> a statement

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

**bacon = 22**

**bacon + 1**

**Ans.**

The value of bacon will be 23.

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

**'spam' + 'spamspam'**

**'spam' \* 3**

**Ans.**

the values of the above two terms will be same i.e 'spamspamspam',

'spam'+'spamspam' = 'spamspamspam'

'spam'\*3 = 'spamspamspam'

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

**Ans.**

egg is a valid variable name and 100 is invalid because, A variable name must start with a letter or the underscore character and a variable name cannot start with a number.

but here 100 is a number so 100 is an invalid variable name.

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

**Ans.**

int(), float(), and str() these three functions can be used to get the integer, floating-point number, or string version of a value respectively.

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

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

**Ans.**

The above expression causes an error because we can’t add or concatenate a string with an integer.

So, to fix this error we have to convert the integer unto a string.

i.e 'I have eaten'+ '99' + 'burritos' and it will give the result 'I have eaten99burritos'