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: * : It is an expression.

'hello' : it is a value.

-87.8 : it is a value.

- : it is an expression.

/ :it is an expression.

+ : it is an expression.

6 : it is a value.

2. What is the difference between string and variable?

Ans: String: A string is a succession of at least one characters (letters, numbers, images) that can be either a consistent or a variable. Comprised of Unicode, strings are permanent arrangements, it are constant to mean they. Strings exist within either single quotes " or double quotes ' in Python.

Variable: Variables are images that you can use to store information in a program. You can consider them an unfilled box that you load up for certain information or worth. Strings are information, so we can utilize them to top off a variable. Proclaiming strings as factors can make it simpler for us to work with strings all through our Python programs.

3. Describe three different data types.

Ans: There are many different types of data types in python. A few of them are:

- Tuple : x=("a","b","c")
- Dict : x = {"name" : "John", "age" : 36}
- List : x = ["apple", "banana", "cherry"]
- Int : x= 8(integer)

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

Ans: An expression is a combination of operators and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators. And expressions are responsible for the type of action that is meant to be performed on an certain set of variables.

Example:

X=1

Y=2

Z=x+y

This will give us an output of

Z=3 (Addition) +

Where as if

Z=x*y

This will give us an output of

Z=2 (Multiplication) *

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

Ans: Expression
- Expressions always returns a value
- Functions are also expressions. Even a non returning function will still return None value, so it is an expression.
- Can print the result value
- Examples Of Python Expressions: "Hello" + "World", 4 + 5 etc.

  Statement
- A statement never returns a value
- Cannot print any result
- Examples Of Python Statements: Assignment statements, conditional branching, loops, classes, import, def, try, except, pass, del etc.

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?
'spam' + 'spamspam'
'spam' * 3

Ans: 'spamspamspam'
'spamspamspam'

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

Ans: Python parser forbids naming variables that way, for the sake of parsing numbers and variables separately, as naming a variable 100 would create a issues.Where as eggs is a string in itself.

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

Ans: 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.'

Ans: We are not allowed to concatenate an int to an str, to fix it we must provide the number 99 in single quotes and making the number 99 to be passed as a string in the code.
Fixed code:
'I have eaten ' + '99' + ' burritos.'