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.

\* - It is an expression

'hello' - value, it’s a string

-87.8 - value ,it’s float

- -“ It is an expression”

/ -It is an expression

* -It is an expression

6 -it’s a value

2. What is the difference between string and variable?

ans- A **variable** is something that can hold a value.

A **string** is one of many *types* of values. A string is a type of information you would store in a Variable. A String is usually words, enclosed with " " .Strings represent texts.

A variable is a “place” where you can store any of these types of values, but is not in itself a value.

3. Describe three different data types.

ans-

**1**.**Integers** – This value is represented by int class. It contains positive or negative whole numbers (without fraction or decimal).

**2.Float** – This value is represented by float class. It is specified by a decimal point.example- 22.678,876.67 etc

**3.Complex Numbers** – Complex number is represented by complex class. It is specified as *(real part) + (imaginary part)j*. For example – 2+3j

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.

| Example:  1.x = 15 + 1.3  2.a = 21  b = 13  c = 40  d = 37  p = (a + b) >= (c - d)  print(p) |
| --- |

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

Ans- [Expressions](http://docs.python.org/reference/expressions.html) only contain [identifiers](http://docs.python.org/release/2.5.2/ref/identifiers.html), [literals](http://docs.python.org/release/2.5.2/ref/literals.html) and [operators](http://docs.python.org/release/2.5.2/ref/operators.html), where operators include arithmetic and boolean operators, the function [call operator](https://docs.python.org/3/reference/expressions.html?highlight=subscriptions#calls) () the [subscription operator](https://docs.python.org/3/reference/expressions.html?highlight=subscriptions#grammar-token-subscription) [] and similar, and can be reduced to some kind of "value".Expressions always give some value as output.

Statements on the other hand, are everything that can make up a line (or several lines) of Python code. Note that expressions are statements as well.

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

bacon = 22

bacon + 1

Ans- Output will be 23

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

'spam' + 'spamspam'= spamspamspam

'spam' \* 3= spamspamspam

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

Ans- There are few rules for defining variables in python.Which are as follows:

1. Variable name should start with letter(a-zA-Z) or underscore (\_).

2.In variable name, no special characters allowed other than underscore (\_).

3.Variable name can have numbers but not at the beginning.

4.Variables are case sensitive.

5.Variable name should not be a Python keyword.Keywords are also called as reserved words.

eggs is a valid variable name because it is starting with an alphabet which is allowed in python while 100 is not a valid variable name because variable name can have numbers but not at the beginning.

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

Ans-1.Function used to get the integer is int().

2..Function used to get the floating-point number float().

3..Function used to get the string is str().

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

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

Ans- Here we are trying to perform concatination but it’s possible only for same datatype.

correction- ‘I have eaten ' + ‘99’ + ' burritos.' here we need to convert 99 inttype to string datatype.