**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.**

*\* = Expression*

*'hello' = Value*

*-87.8 = Value*

*- = Expression*

*/ = Expression*

* *= Expression*

*6 = Value*

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

*The String is a value representing “text” , it can contain characters,numbers , special symbols , always initialize under single or double quotation ( “ “ or ‘ ‘ )*

*A Variable is a store of information, and a String is a type of information you would store in a Variable. A String is usually words, enclosed with ""*

*X = ‘This is ineuron assignment’ ;*

*Here , x is a variable of type string .*

*Variable can store any information , and its type can later be checked .*

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

*The basic three common datatype which used in programming languages is :*

***1 . int*** *= “integer” data type , represents all the integer data which is declared with the variable defining int . “int” is datatype , and its size is usually ( 4 Bytes ) ranging from*

*(-2,147,483,648 to +2,147,483,647 ) (that depends from language to language), if one exceed the range will get an error and need to use another datatype with more capacity .*

***2. float*** *= “float” data type , represent all the floating point number which is declared with the variable defining float . “float” is a datatype ,  It is specified by a decimal point. Optionally, the character e or E followed by a positive or negative integer may be appended to specify scientific notation.*

***3.Complex*** *= 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?**

*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 .*

*Every expression for a language has its own precedence and associativity rule , which one needs to remember in order to evaluate expressions containing mathematical operators and values .*

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

*An Expression always evaluates to a value. And, A statement does something, like creating a variable or displaying a value, it only does whatever the statement says.*

*In programming language terminology, an “expression” is a combination of values and functions that are combined and interpreted by the compiler to create a new value, as opposed to a “statement” which is just a standalone unit of execution and doesn't return anything*

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

**bacon = 22**

**bacon + 1**

*22*

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

**'spam' + 'spamspam'**

**'spam' \* 3**

*1 . ‘spamspamspam’*

*2.’spamspamspam’*

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

**Eggs is a vaid variable , because it is following the legal way to initializing the variable , will work smoothly without any error**

**100** is an invalid variable , because it should not start with the numeric value , will get a ERROR of type (**SyntaxError:** cannot assign to literal

Egg100 = is also a valid variable

100Egg = is not a valid variable

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

Int()

Float()

Str()

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

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

This Expression cause an error type = ( **TypeError**: can only concatenate str (not "int") to str)

Because we cannot concatenate string with integer , it should be of the same type . This thing can be fixed by 99 -- > “99”  
  
“I have eaten”+”99”+”burritos”