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.**

**ANSWER-**

*\* = This is an Arithmetic operator which is use for doing mathematical operation that is multiplication.*

*'hello' = The given data type is a string datatype.*

*-87.8 = The given data type is a Float datatype.*

*- = This is an Arithmetic operator which is use for doing mathematical operation that is Substraction.*

*/ = This is an Arithmetic operator which is use for doing mathematical operation that is Division.*

* *= This is an Arithmetic operator which is use for doing mathematical operation that is Addition.*

*6 = The given data type is a Integer datatype.*

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

**ANSWER-**

*STRINGS-*

*1) String in python is surrounded by either single quotation mark or double quotation mark.*

*2)You can display string literal with the print() function.*

*3)Assigning a string to a variable is done with the variable name followed by an equal sign and the string.*

Example – x=”Hello World!” (here ”Hello World!” is string)

*VARIABLES-*

*1)Variables are containers for storing the data.*

*2)A variable is created the moment you first assign a value to it.*

*3)Variables do not need to be declared with any particular type and can even change type after they have been set.*

*Example – x=”Hello World!” (here x is variable)*

1. **Describe three different data types.**

**ANSWER-**

Python has many data types like text type, numeric type, sequence type, Boolean type, none type etc.

*1)Text type (string)*

*String datatype is written as str() which is used to store text formatted data.*

*Example – x=”Hello World!” (here ”Hello World!” is string).*

*2)Numeric type(integer, float, complex)*

*1] Integer (Int)-*

*Integer is a whole number, positive or negative number without decimal of unlimited length. Example x= 234567756463567*

*2]Float-*

*Float is a positive or negative number containing one or more decimals.*

*Example z= 203.12*

*3)Complex-*

*Complex number are positive or negative number written with j as imaginary part*

*Example x= 3j or y= 3j+5 or z= -5j*

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

**ANSWER-**

*A combination of operand and operator is called an expression.*

*Expression is used to perform mathematical operations.*

*Example (a= 25+635-58\*96/63)*

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

**ANSWER-**

*The above example is statement which declares an integer data type with a variable spam.*

*A statement in python is used for creating variables or displaying a value.*

*Expression can be assigned or used as operand, while statement can only be declared.*

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

**bacon = 22**

**bacon + 1**

**ANSWER-**

*The answer would be, if we declare one more variable to “bacon +1” and print it then it would be 23 or else it will give just “bacon” original value.*

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

**'spam' + 'spamspam'**

**'spam' \* 3**

**ANSWER-**

*For first it will concatenate/append the string with spam.*

*For the second one it will print the spam for thrice by multiplying it.*

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

**ANSWER-**

*There are certain rules for writing a variable in python.*

*A variable can only contain alpha-numeric character and underscore, cannot be python keywords and must start with underscore or a letter cannot start with number.*

*That is why 100 is invalid and eggs is a valid variable name.*

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

**ANSWER-**

*The int() ,float() and str() functions will evaluate interger ,floating point number and string versions of value passed to them.*

*A type() function is used to understand to what kind of value has passed to a variable to unserstand.*

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

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

**ANSWER-**

*The above statement will caused a typeerror (can only concatenate str not int to str)*

*To avoid this error we need to put single quote around the integer 99.*