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.

1. *\* = expression*

*2) 'hello'= values*

*3) -87.8 = values*

*4) - = expression*

*5) / = expression*

1. *+ = expression*
2. *6 =values*

2. What is the difference between string and variable?

1. *String:- ‘string’ is simply a list of character, it maybe alphabets , numbers or any special characters, which is written under single (‘ ‘) or double (“ “) quotes.*

*Eg- ”hello world!”*

1. *Variable:- ‘Variable’ is something that holds an value and it is name of a location in my primary memory , which is assigned by me and variable can hold everything like string, integer, float, Boolean etc.*

*Eg- x=10*

3. Describe three different data types.

*Ans:- a) int datatype: The integer datatypes basically holds number that are positive or negative, but it does not hold fractional or decimal numbers. Eg = 1,2,3,4,-1,-2,0*

*b) float datatype: The floating point datatype basically holds numbers which are int datatype but in addition to it , it also hold fractional and decimal numbers , float datatype can hold negative numbers . Eg= 1.34, 24.54, 53.5, 23*

*c) str datatype: The String datatype is that they can hold any sequence of letters, digits, and other valid character in single or double quotes. Eg=”hello world!” , ‘2321’*

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

*Ans= Expression is combination of operators , constants and variable .A expression may consist of one or more operands that is interpreted to produce some other value , an expression is evaluated as per the precedence of its operators*.

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

|  |  |
| --- | --- |
| *EXPRESSION* | *STATEMENT* |
| 1. *An expression always returns values* 2. *After evaluation state of expression does not change* 3. *Expression cannot be statement*   *Eg :*   * *Spam=10* * *X=30+20* | 1. *A statement may or maynot return values* 2. *Statement return whatever the statement says* 3. *The execution of statement changes state* 4. *Every statement can be expression*   *Eg :*   * *Spam=10*   *Print(spam*) |

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

*Ans:- a) bacon = 22 :- here variable bacon contain of value 22 which is assigned to it.*

1. *bacon + 1 :- as we can see , we have assigned the value of bacon as 22 previously so this expression gives us value of 23 (22+1).*

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

*Ans:- a) 'spam' + 'spamspam' = ‘spamspamspam’*

*b) 'spam' \* 3 = ‘spamspamspam’*

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

*Ans :- There are certain set of rules In python for assigning variable name:*

* *The first character must be a letter or an underscore*
* *If the first character is an underscore then the first non-underscore character must be a letter.*
* *names can only use underscores, alphabetical and numeric characters; no spaces and no punctuation (expect underscores).*
* *Names can be any length, and can contain Unicode characters based on the encoding stated for that source code file.*

*So eggs are valid as they start from alphabets and 100 is invalid as it starts from number.*

*Eg= egg, \_egg, egg2, \_egg\_ etc*

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

*Ans:= int() for interger number*

*float() for floating-point number*

*str()for string*

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

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

*Ans:= replacing ‘single quotes’ to “double quotes” or just add “triple quotes”*

*i.e “I have eaten ' + 99 + ' burritos.”*

*i.e “””I have eaten ‘+99+’ burritos”””*