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.

\* :- arithmetic operator for multiplication

'hello' :- string value

-87.8 :- float value

- :- arithmetic operator for subtraction

/ :- arithmetic operator for true division

* :- arithmetic operator for addition

6 :- integer value

2. What is the difference between string and variable?

Ans:- **String:-**  String is a series of character. We use double and single quote for string. In the quotes very thing is a string.

Example of string:- “This is a string.” And ‘This is also a string.’

**Variable:-** Variable is use for store data in itself. And we can use this data by the only variable name in the future. Simply we assign a value and data to a variable . And we can make a variable name by our choice what we store in that variable.

Example of a Variable:- name = “Hemant chaudhary” and number = 8256823589 like that.

3. Describe three different data types.

**Integer Data Type:-**  Integer data type is store whole numbers. There is no decimal value in it. Example:- 7,34,4,35,e.t.c

**Floats Data Type:-** Float is used for real numbers with decimal which separate the integer and fractional part. Like 89.35,949.948,e.t.c

**Complex Data Type:-** it is a combination of a imaginary and a real number. It’s first part is real and second part is imaginary.

Like:- a = 2+3j. Here 2.0 is a real part and 3.0 is imaginary part

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

Expression is made up of a combination of a operator and operands that is interpreted to produce some other value. Expression can we arithmetic ,logical or relational. In the programming language , expression is evaluated as per the precedence of its operators. Like:- z = x+y, a>b, a == b

Expression is do a some operation for given value and produce some output like:-

A = 7+8 in this expression 7 and 8 is added with the help of a arithmetic operator and the final value of a is 15.

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

Ans:-

1. A statement is used for creating variables or for displaying values.   
 The expression produces some value or result after being interpreted.

2. A statement is not evaluated for some results.

A expression is evaluated for some result.

3. A statement can be a expression.

An expression is not a statement.

Example:- Statement:- b = 7.

Expression:- a = 45\*78.

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

bacon = 22

bacon + 1]

Ans: bacon contain 22.

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:- Eggs is valid variable name because variable name can be start with the alphabets . 100 is invalid because variable name cannot start with the numbers. It is invalid in programming language.

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

Ans:- int():- this function is used for to get a integer value.

float():- this function is used for to get a floating-point number.

Str():- this function is used for to get a string.

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

'I have eaten ' + 99 + ' burritos.' :- in this expression 99 is considered as a integer and in python integer and string is not concatenate . only string can be concatenate.

The correct form of this is :- ‘I have eaten ‘ + ‘99’ + ‘burritos’ now 99 is act as a string because we use single quote for 99.