**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.**

**\*** Is arithmetic operator used for multiplication

**'hello'** is string value

-**87.8** is float value

**-**  Is arithmetic operator used for subtraction

**/** Is arithmetic operator used for division

**+** Is arithmetic operator used for addition

**6**  is integer value

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

A Variable is name of a memory location where information is stored example: **a=5** here **a** is variable name, and a String is a type of information we would store in a Variable for example str=’hello’ where ‘hello’ is string

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

**Integers** – It contains positive or negative whole numbers without fraction or decimal

ex: 2,34

**Float** – It is a real number with floating point representation. It is specified by a decimal point.

ex: 2.3, 4.2, 3.4

**String-** A string is a collection of one or more characters put in a single quote, double-quote or triple quote.

ex: 'sai', "vardhan", ''' hhh'''

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

An expression is a combination of various operators such as arithmetic(+,-,\*,/,//) , Relational Expression (> , < , >= , <=) Logical Expressions (and , or,not) and operands that are evaluated to produce some other value

ex: x = 15 + 1.3

output:16.3

a = 13

b = 5

c = a / b

output:2.6

a = 21

b = 13

c = 40

d = 37

p = (a + b) >= (c - d)

print(p)

output: True

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

An Expression is a sequence or combination of values, variables, operators and function calls that always produces or returns a result value.

Example: x = 5, y = 3, z = x + y

A statement performs certain action (does something), like creating a variable or displaying a value

Example: print(3)

expression is evaluated and assigns or returns the resultant value to a variable

whereas statement doesn’t return anything

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

**bacon = 22**

**bacon + 1**

bacon value won’t change(bacon=22) because we were not assigning the value again back to bacon again in the second expression

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

**'spam' + 'spamspam'**

**'spam' \* 3**

'spam' + 'spamspam'=spamspamspam

'spam' \* 3 =spamspamspam

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

In python there are some rules for variables name one of the rules says that variable can only contain alpha-numeric characters but it cannot be only numbers. That is why egg is valid and 100 is not a valid variable name

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

int() is used to get integer version of a value

float() is used to get floating-point number version of a value

str() is used to get string version of a value

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

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

we cannot concatenate string and integer types of data

we can type cast the integer into string

print('I have eaten ' + str(99) + ' burritos.')