

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?

Strings are sequences of character data and is created by enclosing character in quotes ex:
name='tom'

Variable is a named location used to store data in memory i.e when it is written name='tom'
here name is variable and 'tom' is string.

3. Describe three different data types.

List :They are similar to arrays in other language like C/Java etc.List are ordered sequence of elements .ex newlist=[1,'abc',(7,8)]

Tuple:Tuple are ordered sequence of elements similar to list data type but tuples are immutable i.e they can not be modified once created.ex newtup=('a',2,3)

Dictionary:They are an unordered collection of elements stored in key, value pairs.Ex:
newdict={1:"abc",2:"vfm"}.Dictionaries are mutable.

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

expressions are evaluated to some value.

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

Statements are logical instructions that a python interpreter can read and execute .It can be various types like assignment statement,conditional statement,looping statement.

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

```
bacon = 22
```

```
bacon + 1
```

Variable 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?

Variable can be a combination of letters in lowercase (a to z) or uppercase (A to Z) or digits (0 to 9) or an underscore (_).But can not start with digits(0to 9)

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

```
num=9
```

```
s='123'
```

```
new1=str(num)
```

```
new2=int(s)
```

```
new3=float(num)
```

```
print (new1, new2, new3)
```

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

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

Throws error because data types of all three are not same .To perform operation it needs to be same .First and third are string whereas middle one is integer

