

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.

*

'hello' is a value

-87.8 is a value

- is a subtraction operator

/ is a division operator

+ Is an addition or concatenation operator

6 is a value

2. What is the difference between string and variable?

String is a set of characters or numbers enclosed in single or double quotations. Example: 'saroj' or "saroj" or "1234" or '5421'

A variable is created to hold a value. The value can be anything like an integer, float, string, string, array, list, Boolean etc.

3. Describe three different data types.

int is the integer data type Ex: a=5

str is the string data type ex: a='s'

bool is a Boolean data type ex: a=True

float is a data type to represent decimals ex: a=5.0

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

Expressions are made up of conditions using operators and values. Expressions do the needed computation to either give an output or to check a given condition.

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

Assignment statement is used to assign a value to a variable. Expressions on the other hand use the variables and operators to compute and either give an output or check for a given condition.

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

```
bacon = 22
```

```
bacon + 1
```

Variable bacon will still contain the value 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?

100 can not be a variable name as it is a number

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

String version of a value:

By typecasting, the datatype can be changed

```
A=75
```

```
type(A) is integer
```

```
B=str(A)
```

```
type(B) is a string
```

integer version of value

```
a=input("enter a value for a")
```

```
type(a) is a string
```

```
b=int(a)
```

type(b) will become integer now due to type casting

float version of value

```
a=input("enter a value for a")
```

```
type(a) is a string
```

```
b=float(a)
```

type(b) will become float now due to type casting

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

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

A string can only be concatenated with another string and not with an integer. Here 99 is an integer.

Fix:

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

Typecast the integer value of 99 to string