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'

-87.8

-

/

+

6

2. What is the difference between string and variable?

3. Describe three different data types.

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

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

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

```
bacon = 22

bacon + 1
```

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

```
'spam' + 'spamspam'

'spam' * 3
```

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

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

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

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

Assignment - 1

1)

Values —

'hello', -87, 6

(Can be integer or string)

Expressions —

*, -, /, +

(are Mathematical operators).

2)

* A string is a collection of characters which is written in Single Quotes (or) double Quotes. It is a datatype in python. It is immutable.

* A variable is a name that can refer to a value. It is like an empty box that can be filled with some data. Even a string is data, so we can assign it to variable.

ex

my_string = "Saket Ram" → string

↓

variable

3)

Datatypes in Python —

① Int — Integers ex - a = 8, b = 6, C = 43

② float — floating point values (decimal points also mentioned) ex - a = 8.33; b = 7.432

③ string — collection of characters. (immutable) ex - s = "Saket"

④ List - a contiguous collection of elements. (Mutable

⑤ Tuple — (immutable)

⑥ Set ⑧ Dictionary

4) An expresion is a combination of operands and operators which reduces to a single value.

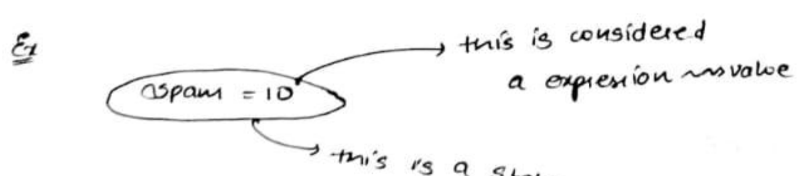
* An operand is a dataitem on which the operation is performed

* An operator is used to ~~specify~~ indicate the type of operation being performed.

Expression
- Postfix → z = a++, z = a - b + c
- Prefix → z = ++a
- Unary → a++, c--
- binary → a+b, a+b, a-b, a/b, c = a, d = a
- ternary → Exp 1 ? Exp2 : Exp 3

5) * Expresions are as said before are conclusively reduced to single values and they are assigned to variables.
But incase of statements they are only declared.
Like a for loop, if condition, ... etc. These are all statements.

Ex



6) bacon = 22

bancon + 1 → will just print 23.

But no effect on the varable $\boxed{\text{bacon}}$. It will still refer to the integer 22 only.

7)

'Spam' + 'spamspam'

O/p

'spamspamspam'

'spam' + 3

O/p

'spamspamspam'

8) Here, eggs is a variable which can be used to refer to a value. But 100, is an integer and cannot be used as a variable based on the rules of python.

9)

Integer ⟶ int()

floating-point number ⟶ float()

String ⟶ str()

Ex

str(366) ⟶ O/p "366"

10)

string datatype

integer datatyp

'I have Eaten' + 99 + 'burritos'.

This expression will give error because 99 here is an integer and we cannot concatenate a string and integer together.

To fix it we can convert 99 into string,

'I have Eaten' + '99' + 'burritos'.

O/p

"I have eaten 99 burritos."