

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?

- (expression, mathematical operator)
  - 'hello' (value, string)
  - -87.8 (value, float)
    - (expression, mathematical operator)
  - / (expression, mathematical operator)
    - (expression, mathematical operator)
  - 6 (value, integer)
2. A string is a sequence of characters enclosed in quotation marks, while a variable is a name that represents a value or object in a program. A variable can store different types of data, including strings, numbers, and other objects.
3. Three different data types are:
- Integer: a whole number without decimals.
  - String: a sequence of characters, such as letters, numbers, and symbols, enclosed in quotation marks.
  - Boolean: a data type that can have only two values, true or false.
4. An expression is made up of values, variables, and operators that evaluate to a single value. All expressions in a program perform some computation and return a value.
5. An expression is a combination of values, variables, and operators that evaluates to a single value, while a statement is a line of code that performs some action or task, such as assigning a value to a variable.

6. The variable `bacon` contains the value 22, as the expression `bacon + 1` evaluates to 23 but is not assigned to any variable.
7. Both terms will result in the string `'spamspamspam'`. In the first case, the `+` operator concatenates two strings. In the second case, the `*` operator repeats the string three times.
8. Variable names must begin with a letter or underscore, and cannot begin with a number. Therefore, `eggs` is a valid variable name because it begins with a letter, while `100` is invalid because it begins with a number.