

Q1. 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

ANS) values → 'hello', -87.8, 6

Expressions → *, -, /, +

Q2. What is the difference between string and variable?

ANS) A Variable is a store of information, and a String is a type of information you would store in a Variable. A String is usually words, enclosed with ""

Eg. String x = "Welcome to SoloLearn"

X is the Variable, and we declared it as a String, use the single = to assign the text to it.

Q3. Describe three different data types.

ANS) **Integers** – This value is represented by int class. It contains positive or negative whole numbers (without fraction or decimal). In Python there is no limit to how long an integer value can be.

Float – This value is represented by float class. It is a real number with floating point representation. It is specified by a decimal point. Optionally, the character e or E followed by a positive or negative integer may be appended to specify scientific notation.

Complex Numbers – Complex number is represented by complex class. It is specified as *(real part) + (imaginary part)j*. For example – $2+3j$

Q4. What is an expression made up of? What do all expressions do?

ANS) An expression is a combination of operators and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators. So that if there is more than one operator in an expression, their precedence decides which operation will be performed first.

Q5. This assignment statements, like `spam = 10`. What is the difference between an expression and a statement?

ANS) Expressions can be assigned or used as operands, while statements can only be declared.

Statements create side effects to be useful, while expressions are values or execute to values.

Expressions are unique in meaning, while statements are two-sided in execution.

Statements are the whole structure, while expressions are the building blocks. For example, a line or a block of code is a statement.

Q6. After running the following code, what does the variable `bacon` contain?

```
bacon = 22
```

```
bacon + 1
```

ANS) 22

Q7. What should the values of the following two terms be?

```
'spam' + 'spamspam'
```

```
'spam' * 3
```

ANS) `'spamspamspam'`
`'spamspamspam'`

Q8. Why is eggs a valid variable name while 100 is invalid?

ANS) **Because variable names cannot begin with a number.**

Q9. What three functions can be used to get the integer, floating-point number, or string version of a value?

ANS) The **int()** , **float()** , and **str()** functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

Q10. Why does this expression cause an error? How can you fix it?

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

ANS) The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.'