In [4]:
```
1.# In the below elements which of them are values or an expression? eg:- values
 #*                  -expression
 #'hello'            -value
 #-87.8              -value
 #-                  -expression
 #/                  -expression
 #+                  -expression
 #6                  -value
```

Out[4]:
```
1.0
```

In [9]:
```
#2. What is the difference between string and variable?
#ANS:
STRING
#String  is a sequence of one or more characters (letters, numbers, symbols) that
#Made up of Unicode,
#strings are immutable sequences, meaning they are unchanging.
#Because text is such a common form of data that we use in everyday life, the str
#building block of programming.
#Strings exist within either single quotes ' or double quotes " in Python.

VARIABLE
#Variables are symbols that you can use to store data in a program. You can think
#fill with some data or value.
#Strings are data, so we can use them to fill up a variable.
#Declaring strings as variables can make it easier for us to work with strings th

#The main difference between the varable and the string is a variable is a store
#type of information you would store in a variable.
:
```

In [ ]:
```
#3. Describe three different data types.
ANS: A data type, in programming, is a classification that specifies which type c
    what type of mathematical,
    relational or logical operations can be applied to it without causing an erro

    TYPES OF DATA TYPES
Numeric int, float, complex
String str
Sequence list, tuple, range
Boolean bool

1 NUMERIC DATA TYPE:
     numeric data type is used to hold numeric values.
Integers, floating-point numbers and complex numbers fall under Python numbers ca
2 STRING DATA TYPE:
    String is a sequence of characters represented by either single or double quo
3 SEQUENCE DATA TYPE:
    *LIST:List is an ordered collection of similar or different types of items se
        within brackets [ ].
    *TUPLE:Tuple is an ordered sequence of items same as a list. The only differe
        Tuples once created cannot be modified. we use the parentheses () to stor
4 BOOLEAN:The Python Boolean type is one of Python's built-in data types. It's us
    an expression.
```

In [ ]:
```
#4.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
    an expression is evaluated as per the precedence of its operators. So that if
    expression, their precedence decides which operation will be performed first.
    We have many different types of expressions in Python.

    1. CONSTANT EXPRESSION: These are the expressions that have constant values c
    2. ARITHEMETIC EXPRESSION: An arithmetic expression is a combination of numer
        sometimes parenthesis. The result of this type of expression is also a nu
        these expressions are arithmetic operators like addition, subtraction, et
    3. INTEGRAL EXPRESSIONS: These are the kind of expressions that produce only
        and type conversions.
    4. FLOATING EXPRESIONS: These are the kind of expressions which produce float
        computations and type conversions.
    5. RELATIONAL EXPRESSION: In these types of expressions, arithmetic expressio
        operator (> , < , >= , <=). Those arithmetic expressions are evaluated fi
        operator and produce a boolean output in the end. These expressions are a
    6. LOGICAL EXPRESSION: These are kinds of expressions that result in either T
        more conditions. For example, (10 == 9) is a condition if 10 is equal to
        return False.
    7. BITWISE EXPRESSION: These are the kind of expressions in which computation
    8. COMBINATIONAL EXPRESSION: We can also use different types of expressions i
        termed as combinational expressions.
```

In [ ]:
```
#5. This assignment statements, like spam = 10. What is the difference between ar
ANS:* An expression is a combination of operators and operands that is interprete
    is evaluated as per the precedence of its operators.
    *A statement is an instruction that the Python interpreter can execute. We ha
     they are print and assignment.
    When you type a statement on the command line, Python executes it and displa
    The result of a print statement is a value. Assignment statements don't produ
    *Expressions only contain identifiers, literals and operators, where operator
    the function call operator () the subscription operator [] and similar, and c
    which can be any Python object
    *Statements on the other hand, are everything that can make up a line (or sev
    *The expressions are statements as well
```

In [2]:
```
#6 .After running the following code, what does the variable bacon contain?
bacon = 22
bacon + 18. Why is eggs a valid variable name while 100 is invalid?
```

Out[2]:
```
23
```

In [4]:
```
#7. What should the values of the following two terms be?
#spam +spamspam
#spam *3
#ANS:
var1 = "spam"
var2 = "spamspam"
var3 = var1+var2
print(var3)


var1 = "spam"*3
print(var1)


# the output of both the expressions is same
```

```
spamspamspam
spamspamspam
```

In [ ]:
```
#8. Why is eggs a valid variable name while 100 is invalid?
ANS: eggs is valid variable because its is a string data type and it starts with
    here, 100 is  number as per the rules of variables in python the variables sh
```

In [ ]:
```
#9. What three functions can be used to get the integer, floating-point number, c
ANS: The function that is used to get the integer value is int()
     The function that is used to get the floating point number is float()
    The function that used to get the string is str()
```

In [7]:
```
#10. Why does this expression cause an error? How can you fix it?
'I have eaten' + 99 +'burritos


# the error in the expression is due the the concatination of different  datatype
```

```
  Input In [7]
    'I have eaten' + 99 +'burritos
                                  ^
SyntaxError: EOL while scanning string literal
```

In [1]:
```
# the above expression can be fied by


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

Out[1]: 'I have eaten str(99)burritos'

In [ ]:
```

```