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In [ ]: # 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

# Values are:- 'hello',-87.8,6
# expression are:- *,-,/,+,
```

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In [ ]: # 2. What is the difference between string and variable?
'''
String is a datatype which stores alphanumeric values in enclosing quotes whereas variable is name location to store
data in memory and you don't have to declare the type of a variable when you create one, also you can change the type of data held by a variable at any time.
'''
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In [1]: # 3. Describe three different data types.
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```
#int
c=1
print(c)
print(type(c))

#float
d=2.02
print(d)
print(type(d))

#string
e="hello world"
print(d)
print(type(e))
```

```
1
<class 'int'>
2.02
<class 'float'>
2.02
<class 'str'>
```

```
In [2]: # 4. What is an expression made up of? What do all expressions do?
        """
        An expression is a combination of operators and operands.
        operators are +,-,*,/,% and so on. Expression provide values or output after being
        interpreted by the Python interpreter.
        """
        x=5
        Add = x + 10 # expression
        Add
```

Out[2]: 15

```
In [ ]: # 5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?
        """
        An expression is a combination of operators and operands. like x= x+5
        whereas statement is creating a variable or displaying a value like x=5
        """
```

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In [3]: #6. After running the following code, what does the variable bacon contain?
        bacon = 22
        bacon + 1
        # bacon contains value 23
```

Out[3]: 23

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In [5]: # 7. What should the values of the following two terms be?-- will have same value 3 times spam
        print('spam' + 'spamspam')
        print('spam' * 3)
```

spamspamspam
spamspamspam

```
In [9]: # 8. Why is eggs a valid variable name while 100 is invalid?
        """
        -- egg is valid variable because its not any keyword or datatype name
        whereas 100 is invalid as variable name cannot start with number
        """

        egg=10
        print(egg)
```

10

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In [8]: 100=a
        print(100)
```

```
File "C:\Users\91993\AppData\Local\Temp\ipykernel_15612\3284885994.py", line 1
    100=a
      ^
```

SyntaxError: cannot assign to literal

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

        # the 3 function are int(), float(), and str()
```

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In [13]: # 10. Why does this expression cause an error? --because we can't add integer with string values
        'I have eaten ' + 99 + ' burritos.'
```

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TypeError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_15612\2292521795.py in <module>
      1 # 10. Why does this expression cause an error? --because we can't add integer with string values
----> 2 'I have eaten ' + 99 + ' burritos.'
      3
```

TypeError: can only concatenate str (not "int") to str

```
In [12]: #How can you fix it?-- by converting integer type value as string
        'I have eaten ' + '99' + ' burritos.'
```

```
Out[12]: 'I have eaten 99 burritos.'
```

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In [ ]:
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