```
In [1]:  #@author: Bhanu Prakash

         2+3 #addition
```

Out[1]: 5

```
In [4]:  x=2 #storing value "2" in a variable called "x" and there is no output it just an assignment operation
```

```
In [5]:  x=2

         x+3 #if variable has value and if we want add a number to that variable then that is possible
```

Out[5]: 5

```
In [7]:  x=2

         y=3

         x+y #if we have values for variables then we can add those variables
```

Out[7]: 5

```
In [8]:  x=9 #why we call these as variables because in general we can change the value for the variable it's possible

         x+y
```

Out[8]: 12

```
In [9]:  x #variable defined with a value
```

Out[9]: 9

```
In [10]:  abc #not defined variable (error)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-10-03cfd743661f> in <module>
```

```
----> 1 abc

NameError: name 'abc' is not defined
```

In [12]: `x+10 #defined variable with value is adding with number is possible`

Out[12]: 19

In [13]: `_+y #'_' it represents previous output`

Out[13]: 22

In [16]:
```
name='bhanu' #we can use variables with strings

print(name)
```

bhanu

In [25]: `name+' student' #we can use variables with strings and we can add string to it`

Out[25]: `'bhanu student'`

In [26]: `name ' student' #without '+' sign it doesn't work to add a variable and string`

```
  File "<ipython-input-26-daa41f7bbd23>", line 1
    name ' student'
                  ^
SyntaxError: invalid syntax
```

In [27]: `name[0] #name is variable which contains string in it which we can say it as a string is a collection of characters `

Out[27]: `'b'`

In [29]: `name[4] #'4' it is a index of string which has been stored in variable called name`

Out[29]: `'u'`

In [30]: `name[5] #this is like index out of range there is no character`

```
---------------------------------------------------------------------------
```

```
IndexError                                Traceback (most recent call last)
<ipython-input-30-94fccd0ebc6d> in <module>
----> 1 name[5]

IndexError: string index out of range
```

In [31]: `name[-1] #we can use negative index operations also it starts from last character of string`

Out[31]: `'u'`

In [32]: `name[-2]`

Out[32]: `'n'`

In [33]: `name[0:2] #if we want two characters`

Out[33]: `'bh'`

In [34]: `name[1:3] #it starts from first index and ends like character 'n-1' 3-1=2`

Out[34]: `'ha'`

In [35]: `name[1:] #in this it starts with first index character and goes to end`

Out[35]: `'hanu'`

In [36]: `name[:4] #in this it gives all index characters before '4'`

Out[36]: `'bhan'`

In [37]: `name[3:10] #it starts with 3rd index and ends with it's end if we give higher index also it doesn't show any error`

Out[37]: `'nu'`

In [40]: `name[0:3]='BH' #one's if you assign value you cannot change it`

```
---------------------------------------------------------------------------
TypeError                                Traceback (most recent call last)
```

```
<ipython-input-40-c805c050e364> in <module>
----> 1 name[0:3]='BH'

TypeError: 'str' object does not support item assignment
```

In [41]:
```
name[0]='B' #one's if you assign value you cannot change it even a single character you cannot change
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-41-376b892755ea> in <module>
----> 1 name[0]='B'

TypeError: 'str' object does not support item assignment
```

In [46]:
```
'this is '+name[0:] #strings in python is immutable but we can add a string to it
```

Out[46]: `'this is bhanu'`

In [47]:
```
myname='K BhanuPrakashReddy'

len(myname) #here len() is a one of in built functions in python where it gives the length of a string like here numb
```

Out[47]: 19

In [ ]: