Creating class and Objects

- You can create more than one class. Let's use the example of creating a class called Rectangle so we can ask user to input the LENGTH and WIDTH and your code calculates the AREA.

1. Start of with the key word **class**, **class name** and **colon**, therefore

```
class Rectangle:
```

   - Now that you have a class, within it, you must have two things:
   - The CONSTRUCTOR - it is also known as the *init* function. That's this function's name. Its job it to introduce all the variables (aka instance variables). And links them to the class itself. The linking to class is shown by the key word **self**.
   - Here's how it looks

```
    #how to declare a function
    #def function_name (whatever variable it will take):

    #example of the  _init_ function aka CONSTRUCTOR
    def _init_(self,length,width):
```

- Now, initialize those new instance variables

```
    self.length = length
    self.width = width
    #end of CONSTRUCTOR
```

The next set of function we will create is one that will have the actual formula or calculation for AREA. We know that AREA = L x W, so:

- - We must define a new function to handle this, called **calc_area**.

```
    def calc_area(self):     #we add self because it relates to the class
        return(self.length * self.width)   #width and length coming from its
own class
```

- When you call to use this function, you are applying a method to the object.

Object initialization

Remember that we have not created any objects yet. Only the class and its variables + functions

Create the object ==========

We will call this object, **rec_obj**.

Rule 1

Initialize this new object by: equating it to its class (+ variables associated)

But first, let's ask the User to input a number for L and W

```
L = input()  #write a prompt message in the ( ) to prompt user to type value
W = input("Enter the length")

#make sure input is an integer so use the int function to convert
#final code is
L = int(input("Enter the length"))

#Do the same for width
```

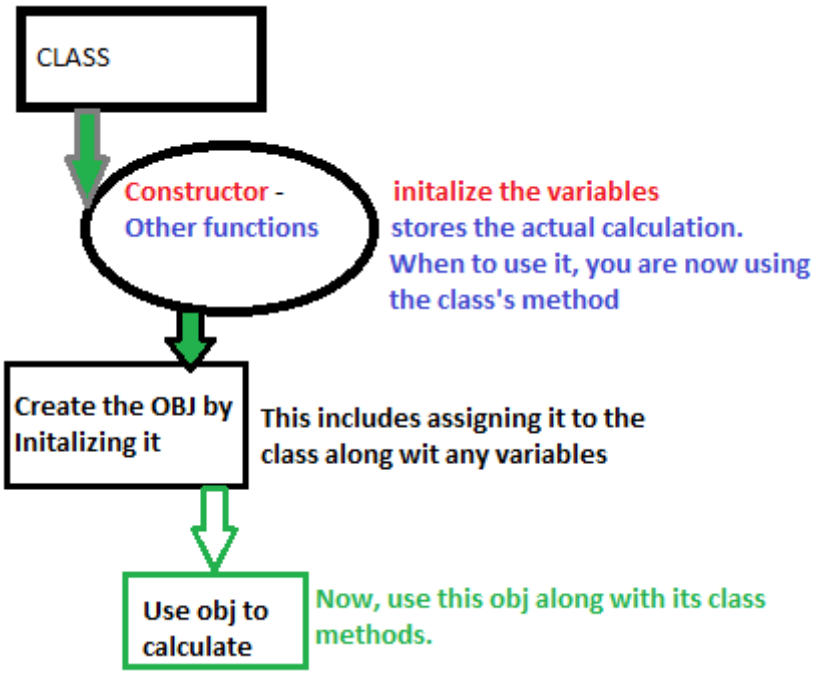
Because we now will take L and W from user....

We must add this to the initialization

```
rec_obj = Rectangle(L,W)
```

Now you have full access to use the methods from this class Rectangle to get the area

```
area = rec_obj.calc_area()
print("Area is equal to ",area)
```


CLASS
Constructor -
Other functions
initalize the variables
stores the actual calculation.
When to use it, you are now using
the class's method
Create the OBJ by
Initalizing it
This includes assigning it to the
class along wit any variables
Use obj to
calculate
Now, use this obj along with its class
methods.