<center>Object-Oriented Programming Based **Assignment-4**</center>

Q. 1: Create a Class with instance attributes.

Q. 2: Create a Vehicle class without any variables and methods.

Q. 3: Create a child class Bus that will inherit all of the variables and methods of the Vehicle class.

Q. 4: Define a property that must have the same value for every class instance (object)

Q. 5: Check type of an object

Q. 6: Determine if School_bus is also an instance of the Vehicle class.

Q.7

Using the `rectangle` class definition ,write the following four functions:

`create_rectangle`
Input parameters: `x, y, width, height`
Return value: instance of Rectangle
Operation: create a new instance of Rectangle
`str_rectangle`
Input parameter: `rect`
Return value: string
Operation: convert given Rectangle instance into string of form `(x, y, width, height)`
`shift_rectangle`
Input parameters: `rect, dx, dy`
Return value: None
Operation: change the x and y coordinates of the given Rectangle instance
`offset_rectangle`
Input parameters: `rect, dx, dy`
Return value: instance of Rectangle
Operation: create a new Rectangle instance which is offset from the given instance in x and y coordinates by `dx` and `dy` respectively

Test your functions with the following code:

```
r1 = create_rectangle(10, 20, 30, 40)
print str_rectangle(r1)
shift_rectangle(r1, -10, -20)
print str_rectangle(r1)
r2 = offset_rectangle(r1, 100, 100)
print str_rectangle(r1)          # should be same as previous
print str_rectangle(r2)
```