

1. A class is a type of an object where as an object can be anything from string, lists, tuples, integers etc.
2. A regular variable is not specific to any class or object, where as a member variable is specific to and is stored within another class or object
3. A regular function is not specific to any class or object, where as a member function is specific to and is stored within another class or object. A member function requires the self reference to differentiate between all of the potential objects that exists.
4. Inheritance expresses an IS-A relationship. It is different from composition because composition does not derive its classes from a parent class, instead it is a way of combining two classes or objects and not inheriting.
5. The constructor of a class is a special member function that is called to instantiate a class.
6. The special function name for a constructor in python is ' __init__ '
The constructor is called once during the lifetime of an object

7.

```
def populate():  
    i = 1.0  
    list = []  
    while i <= 10.0:  
        j = 1.0  
        while j <= 10.0:  
            point = Point2D( i, j )  
            list.append( point )
```
8.

```
def print( point ):  
    if isinstance( point, Point2D ):  
        string = '({0:.2f}, {1:.2f})'.format( self.x, self.y, )  
        print string
```
9.

```
class MyPoint2D( Point2D ):  
    def __init__( self, x=0, y=0 ):  
        Point2D.__init__( x, y )  
  
    def get_max_coord( self ):  
        if self.x > self.y:  
            return self.x  
        else:  
            return self.y  
    def get_min_coord( self ):  
        if self.x < self.y:  
            return self.x  
        else:  
            return self.y
```