**23/03/2019 Lecture21**

**OOPS revision**

**Abstraction :** Hiding things itself OR hide how things are working.

**Encapsulation :** Coupling between Attributes and Methods working on it.

**Polymorphism :** One interface and multiple implementation.

**Inheritance : Reusability => Contenment**

inheriting property of base class to child class.

**2 kind :** has-a & is-a

While moving down in hierarchy is called **Specialization.**

While moving up in hierarchy its called **Generalization.**

**Object : Instance of a class / Representator.**

**Main properties : i.** Object has **Identity**

**ii.** Object has its own attributes.

It has its own **State.**

**Changing State : Dynamic**

**Constant State : Static**

**iii.** Has its own **Responsibilities.**

**iv.** Responsibilities achieved by its **Behaviour.**

**Subprocess**

**subprocess is module in Python which create new process**

>>> subprocess.**call**("dir",shell=True) **#Returns call**

>>> subprocess.call("cp",shell=True) 'cp' is not recognized as an internal or external command, operable program or batch file. 1 >>> subprocess.**check\_call**("cp",shell=True) **#Returns call with exception** 'cp' is not recognized as an internal or external command, operable program or batch file. Traceback (most recent call last): File "<stdin>", line 1, in <module> File "C:\Python27\lib\subprocess.py", line 190, in check\_call raise CalledProcessError(retcode, cmd) subprocess.CalledProcessError: Command 'cp' returned non-zero exit status 1 >>> subprocess.**check\_output**("tasklist",shell=True)

>>> x=subprocess.check\_output("tasklist",shell=True)

#assign to variable **check\_output return direct return value**

>>>subprocess.check\_call(["Tasklist"],shell=True,stdout=open("myout.txt","w")) **#calls process to write output in other file**