**OBJECT ORIENTED PROGRAMMING**

Object oriented programing uses objects as the basic building block. Developers are challenged to not only define data type of a data structure, but also define the type of methods that can be applied to a data structure. This way data structure becomes object which includes both. In OOP, code is broken down into smaller pieces, each with their own properties and methods. This way, if an error is made in one piece of the code, it doesn’t propagate to all other pieces of the code. In addition, data is secured within each piece of the code such that only the attributes which would be required by other pieces are exposed and rest of the attributes are hidden.

OOP is mainly used to write big/enterprise level programs where multiple developers are working on the same project and contribute into it. It is also useful in programs/applications that require encapsulation and/or abstraction of certain data elements. The main advantages of OOP are:

1. OOP is used to keep small pieces of code independent from each other. This is done through encapsulation, where a developer can define private attributes which are hidden from other developers. This way other program cannot affect their code and vice-versa.
2. We can write different functions with same name that does same job but takes the different parameters. (Polymorphism)
3. We can write basic code once than we can call it over and over again, that is Generic
4. An object can acquire the properties of their parent object through Inheritance. This make the code reusable.