Static Class Members (Fields & Methods)

- Static fields & methods don't belong to a single instance of a class
- We use it when we want to share a common information with the class itself (all its objects) not the single object
- It exists along the lifetime of the program even if there are no objects
- To access the static field, you use the class name not the object name (example = Students, Cars)

Static Class Methods

- They used to create classes called “Utility Classes”
- In the utility classes, we don’t need to declare new object in every time we want to implement any function on it because it will consume a lot from the memory
- Just like the Calculator with its methods: add, subtract, multiply

Friend Function

- A friend function of a class is defined outside that class' scope but it has the right to access all private and protected members of the class.
- The prototypes for friend functions appear in the class definition.
- friends are not member functions.

```
class className{

.....

friend returnType functionName(arg list);
};
```

Friend Class

- Just like friend functions, we can also have a friend class.
- Friend class can access private and protected members of the class to which it is a friend.
- Note that the friendship is not mutual unless we make it so.
- The friendship of the class is not inherited. This means that as class B is a friend of class A, it will not be a friend of the subclasses of class A.

```
class A{
.....
friend class B;
};
class B{
.....
};
```