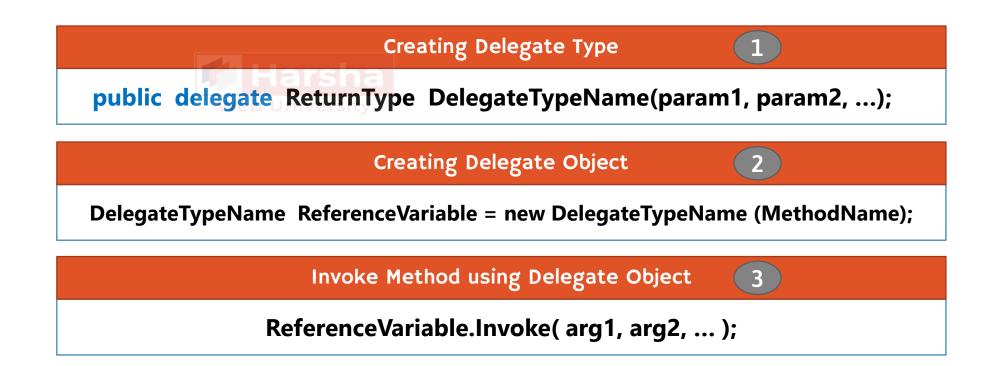
Delegates

What

- > "Delegate type" is a "type" that represents methods that have specific parameters and return type.
- The "delegate" (a.k.a. delegate object), is an object that stores reference (address) of a specific method of a specific class, with compatible parameters and return type, which is already defined in the delegate type.



How

Rules

- > You can invoke the methods using 'delegate objects' (or) 'delegates'.
- > Delegates are used to pass methods as arguments to other methods.
- The method signature (parameters and return type) must match between the "method" and "delegate".
- > Delegates can be used as "parameter type" or "return type" of a method.
- > You can store references of non-static method or static method in the delegate object.
- The methods, which reference is stored in the "single-cast delegate object", can have return value.
- The methods, which reference is stored in the "multi-cast delegate object", can't have return value; in case, if they have return value, the return value of lastly-executed method only can be received; others will be ignored.
- > All delegate types are derived from "System.Delegate" class.

Types of Delegates

Single-Cast Delegates

- Contains reference of only one method.
- > When called, it directly invokes the referenced method.

Multi-Cast Delegates

- Contains references of multiple methods.
- When called, it invokes all the referenced methods, one-by-one in a sequence.
- All methods' parameters and return type should be same.