OBJECTIVE-C FAST ENUMERATION

Fast enumeration is an Objective-C's feature that helps in enumerating through a collection. So in order to know about fast enumeration, we need know about collection first which will be explained in the following section.

Collections in Objective-C

Collections are fundamental constructs. It is used to hold and manage other objects. The whole purpose of a collection is that it provides a common way to store and retrieve objects efficiently.

There are several different types of collections. While they all fulfil the same purpose of being able to hold other objects, they differ mostly in the way objects are retrieved. The most common collections used in Objective-C are:

- NSSet
- NSArray
- NSDictionary
- NSMutableSet
- NSMutableArray
- NSMutableDictionary

If you want to know more about these structures, please refer data storage in Foundation Framework.

Fast enumeration Syntax

```
for (classType variable in collectionObject )
{
  statements
}
```

Here is an example for fast enumeration.

```
#import <Foundation/Foundation.h>

int main()
{
   NSAutoreleasePool * pool = [[NSAutoreleasePool alloc] init];
   NSArray *array = [[NSArray alloc]
   initWithObjects:@"string1", @"string2",@"string3",nil];
   for(NSString *aString in array)
   {
      NSLog(@"Value: %@",aString);
   }
   [pool drain];
   return 0;
}
```

Now when we compile and run the program, we will get the following result.

```
2013-09-28 06:26:22.835 demo[7426] Value: string1
2013-09-28 06:26:22.836 demo[7426] Value: string2
2013-09-28 06:26:22.836 demo[7426] Value: string3
```

As you can see in the output, each of the objects in the array is printed in an order.

Fast Enumeration Backwards

```
for (classType variable in [collectionObject reverseObjectEnumerator] )
{
  statements
}
```

Here is an example for reverseObjectEnumerator in fast enumeration.

```
#import <Foundation/Foundation.h>

int main()
{
   NSAutoreleasePool * pool = [[NSAutoreleasePool alloc] init];
   NSArray *array = [[NSArray alloc]
   initWithObjects:@"string1", @"string2",@"string3",nil];
   for(NSString *aString in [array reverseObjectEnumerator])
   {
      NSLog(@"Value: %@",aString);
   }
   [pool drain];
   return 0;
}
```

Now when we compile and run the program, we will get the following result.

```
2013-09-28 06:27:51.025 demo[12742] Value: string3
2013-09-28 06:27:51.025 demo[12742] Value: string2
2013-09-28 06:27:51.025 demo[12742] Value: string1
```

As you can see in the output, each of the objects in the array is printed but in the reverse order as compared to normal fast enumeration.