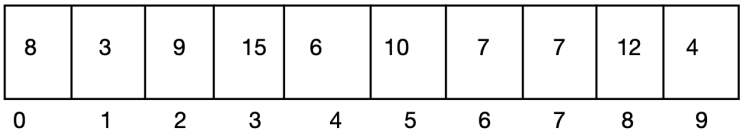
# Reverse and Shift in an Array

Size = 10
Length = 10




## 1. Reverse

- For reversing an array we have 2 methods
- First is taking a new array and placing the elements in a reverse order then we replace the elements in the original array
- The time taken is 0(n)

**Ex :**

```
for( i = length-1 , j = 0 ; i >=0 ;  i - - , j++ )
{
        B[ j ] = A[ i ];
}

for( i = 0 ;  i < length ;  i++ )
{

        A[ i ]  = B[ i ];
 }
```

- The second method is to swap the elements
- The time taken is 0(n)

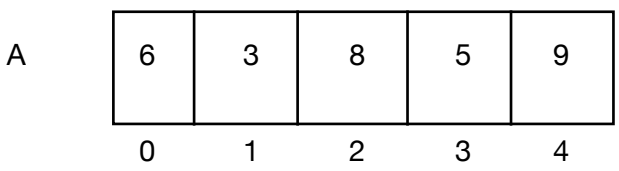
**Ex :**

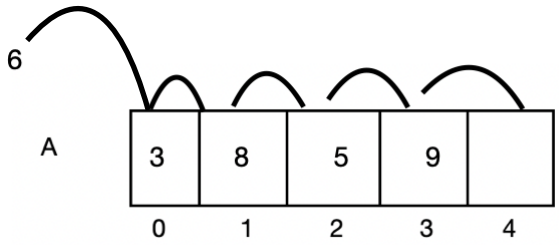
```
for( i = 0 , j = length - 1 ; i < j ;  i ++ , j- - )
{

        temp = A[ i ];
        A[ i ]  = A[ j ];
        A[ j ] = temp;
}
```

## 2. Left / right Shift

- Left shift means we want to shift all the elements on the left hand side

- In this process we will lose an element as there is no extra space to store it

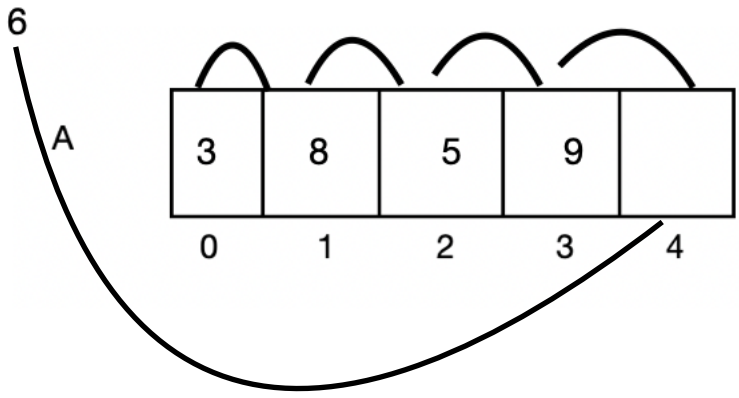





- The left and right shift work similar the difference is their directions

## 3. Rotation

- It means that  the bit which was not stored in shifting will be stored at the available empty space in an array



- The time taken is 0(n)
- Example of this is LED display boards