Dynamic Array using C Programming Part 2

Learning step 3 : Access, Update, Delete elements

We make 3 different functions for 3 operations
First is Get to obtain a specific element in array by using index position

```
/*
 *To get element from an array we just check if index is in valid range
 *If valid we just return pointer to that index of array which has the value
*/

int get(DynamicArray *arr, int index)
{
        if (index<0 || index > arr->size){
                printf("Illegal Index");
        return -1;
        }
        return arr->data[index];
}
```

Second is Update to switch elemnt with another value in the array.

```
/*
 * To Update we take position and value to be entered as parameters
 * We check if index is in valid range
 * if yes just assign the pointer to the new value
 * */
void update(DynamicArray *arr, int val, int index){
        if (index < 0 || index > arr->size){
                printf("Illegal Operation");
        return;}
        arr->data[index] = val;
}
```

Third is to remove and for that we just switch values with the next value basically shifting everything to left and then update the size by decreasing 1. Also note that capacity still remains the same as we are not decreasing Capacity yet.

```
/*
 * To Remove an element we just need the index position as parameter
 * Again check if index is in valid range
 * If yes shift all element to left using i+1
 * Decrease size by 1 to keep the value updated
 */
void removeA(DynamicArray *arr, int index){
        if(index < 0 || index > arr->size){
                printf("Illegal Operation");
                return;
        }
        for(int i = index; i < arr->size; i++)
        {
                arr->data[i] = arr->data[i + 1];

        }
        arr->size--;
}
```

Call the functions in main and then print the final array after operations.

```c
int main(){
        DynamicArray *arr = createArray(2);
        append(arr, 1);
        append(arr, 2);
        append(arr, 3);
        int x = get(arr, 2);
        printf("Got: %d \n", x);
        update(arr, 5, 2);
        removeA(arr, 0);
        printf("Final Array: ")
        for (int i = 0; i < arr->size; i++){
         printf("%d ", arr->data[i]);
        }
        printf("\n");
        freeArray(arr);
        return 0;
}
```

We **wrote the Append functionas well as structure and createArray Function for DynamicArray in Day1, so please feel free to refer it.**