Creation and Insertion Operation in an Array using C

```
#include<stdio.h>
void main(){
int arr[10],i,n,element,index;

printf("Enter the size of an array:");
scanf("%d",&n);

printf("\n Enter the elements of the array:");
for(i=0;i<n;i++)
   scanf("%d",&arr[i]);

printf("\n Printing the elements of the array:");
for(i=0;i<n;i++)
   printf("%d, ",arr[i]);

printf("\n Insertion Case 1: Element Only");
printf("\n Enter the new element to insert");
scanf("%d",&element);

n++;
printf("\n The size of n=%d",n);
printf("\n The element = %d",element);
arr[n-1] = element;

printf("\n Printing the elements of the array:");
for(i=0;i<n;i++)
   printf("%d, ",arr[i]);

printf("\n Insertion Case 2: Element & Index");

n++;
printf("\n The size of n=%d",n);
printf("\n The element = %d",element);

printf("\n Enter the new element to insert");
scanf("%d",&element);

printf("\n Enter the index for the new element to insert");
scanf("%d",&index);

if(index>n)
   printf("Invalid Index");
else
{
   for(i=n-1;i>=index;i--)
      arr[i+1]=arr[i];
```

```
    arr[index] = element;
}

printf("\n Printing the elements of the array:");
for(i=0;i<n;i++)
    printf("%d, ",arr[i]);

}
```

Creation and Deletion Operation in an Array using C

```
#include<stdio.h>
void main(){
int arr[10],i,n,element,index;

printf("Enter the size of an array:");
scanf("%d",&n);

printf("\n Enter the 5 elements of the array:");
for(i=0;i<n;i++)
    scanf("%d",&arr[i]);

printf("\n Printing the 5 elements of the array:");
for(i=0;i<n;i++)
    printf("%d, ",arr[i]);

printf("\n Deletion Case: Using Index");

printf("\n Enter the index to delete an element");
scanf("%d",&index);

if(index>n)
    printf("Invalid Index");
else
{
    for(i=index+1;i<n;i++)
        arr[i-1]=arr[i];

}
n--;

printf("\n Printing the elements of the array:");
for(i=0;i<n;i++)
    printf("%d, ",arr[i]);

}
```

Creation and Insertion of an element in an Array using Pointers in C

```
#include<stdio.h>
#include<stdlib.h>
void main()
{
int *ptr,i,sum=0,n,e,index;
printf("\n Enter size:");
scanf("%d",&n);

// ptr = (int*) calloc (10, sizeof(int));
ptr = (int*) malloc (n * sizeof(int));

if(ptr==NULL){
        printf("Error!");
        exit(0);
}

printf("\n Enter Elements:");
for(i=0;i<n;i++){
        scanf("%d", ptr+i);
        sum = sum + *(ptr+i);
}

printf("\n Printing Pointer Addresses and its Elements:");
for(i=0;i<n;i++){
        printf("\n Elements stored at address %d is %d",ptr+i,*(ptr+i));
}
printf("\n Case 1: Insert using Element only.");

printf("\n Enter an element to be inserted at the end");
scanf("%d",&e);
n++;

ptr = realloc(ptr, n);
*(ptr+n-1) = e;

printf("\n Printing Pointer Addresses and its Elements:");

for(i=0;i<n;i++){
        printf("\n Elements stored at address %d is %d",ptr+i,*(ptr+i));
}

printf("\n Case 2: Insert using Element & Index.");

printf("\n Enter an element to be inserted");
scanf("%d",&e);
n++;
printf("\n Enter the index at which the element is to be inserted");
```

```
scanf("%d",&index);

ptr = realloc(ptr, n);

for(i=n-1;i>=index;i--)
        *(ptr+i+1) = *(ptr+i);

*(ptr+index) = e;

printf("\n Printing Pointer Addresses and its Elements:");
for(i=0;i<n;i++){
        printf("\n Elements stored at address %d is %d",ptr+i,*(ptr+i));
}
free(ptr);
}
```

Creation and Deletion of an element in an Array using Pointers in C

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
int *ptr,i,sum=0,n,e,index;
printf("\n Enter size:");
scanf("%d",&n);

// ptr = (int*) calloc (10, sizeof(int));
ptr = (int*) malloc (n * sizeof(int));

if(ptr==NULL){
        printf("Error!");
        exit(0);
}

printf("\n Enter Elements:");
for(i=0;i<n;i++){
        scanf("%d", ptr+i);
}

printf("\n Printing Pointer Addresses and its Elements:");
for(i=0;i<n;i++){
        printf("\n Elements stored at address %d is %d",ptr+i,*(ptr+i));
}

printf("\n Deletion Operation:");
printf("\n Enter index");
scanf("%d",&index);

for(i=index;i<n;i++)
```

```
            *(ptr+i) = *(ptr+i+1);

n--;
ptr=(int*)realloc(ptr,n);
printf("Size of the pointer = %d",sizeof(ptr));

printf("\n After Deletion, Printing Pointer Addresses and its Elements:");
for(i=0;i<n;i++){
            printf("\n Elements stored at address %d is %d",ptr+i,*(ptr+i));
}

free(ptr);
return 0;
}
```