**Assignment -4**

**ANS 11. WAP to implement Insert -Front, any position in between & end in an array. Print the array before insert & after insert**

#include<stdio.h>

int main() {

    int n, position, value, ch;

    printf("Enter the number 0f elements which you want to insert in array: ");

    scanf("%d",&n);

    int arr[n];

    printf("Enter %d elements of the array: ", n);

    for (int i=0;i<n;i++) {

        scanf("%d",&arr[i]);

    }

    printf("Array before insertion: ");

    for (int i=0;i<n;i++) {

        printf("%d ",arr[i]);

    }

    printf("\n1. Insertion at the Front");

    printf("\n2. Insertion at Any Position in Between");

    printf("\n3. Insertion at the End\n");

    scanf("%d",&ch);

    switch (ch) {

        case 1:

            printf("Enter the value to insert: ");

            scanf("%d", &value);

            for (int i=n;i>0;i--) {

                arr[i]= arr[i-1];

            }

            arr[0]=value;

            n++;

            break;

        case 2:

            printf("Enter the position to insert (i.e. from 1 to %d): ", n + 1);

            scanf("%d",&position);

            if (position <1 || position > n+1) {

                printf("Invalid position\n");

                return 0;

            }

            printf("Enter the value to insert: ");

            scanf("%d", &value);

            for (int i=n; i>=position; i--) {

                arr[i] = arr[i-1];

            }

            arr[position-1] = value;

            n++;

            break;

        case 3:

            printf("Enter the value to insert: ");

            scanf("%d",&value);

            arr[n]=value;

            n++;

            break;

        default:

            printf("Invalid choice");

    }

    printf("Array after insertion: ");

    for (int i=0;i<n;i++) {

        printf("%d ",arr[i]);

    }

    return 0;

}

**ANS 12. WAP to implement delete-Front, any position in between & end in an array. Print the array before delete & after delete**

#include<stdio.h>

int main() {

    int n, position, ch;

    printf("Enter the number of elements you wish to insert in array: ");

    scanf("%d", &n);

    int arr[100];

    printf("Enter %d elements of the array: ", n);

    for (int i=0;i<n;i++) {

        scanf("%d",&arr[i]);

    }

    printf("Array before deletion: ");

    for (int i=0;i<n;i++) {

        printf("%d ",arr[i]);

    }

    printf("\n1. Delete at the Front");

    printf("\n2. Delete at Any Position in Between");

    printf("\n3. Delete at the End\n");

    scanf("%d", &ch);

    switch (ch) {

        case 1:

            for (int i = 0; i < n - 1; i++) {

                arr[i] = arr[i + 1];

            }

            n--;

            break;

        case 2:

            printf("Enter the position (1 to %d) to delete: ", n);

            scanf("%d",&position);

            if (position<1 || position>n) {

                printf("Invalid position\n");

                return 0;

            }

            for (int i=position-1; i<n-1; i++) {

                arr[i]=arr[i+1];

            }

            n--;

            break;

        case 3:

            n--;

            break;

        default:

            printf("Invalid choice");

            return 0;

    }

    printf("Array after deletion: ");

    for (int i=0; i<n; i++) {

        printf("%d ",arr[i]);

    }

    return 0;

}

**ANS 13. Given an array, the task is to cyclically rotate the array clockwise by one time**

#include<stdio.h>

int main() {

    int n;

    printf("Enter number of elements you wish to insert in array: ");

    scanf("%d", &n);

    int arr[n];

    printf("Enter %d elements of array: ",n);

    for (int i = 0; i < n; i++) {

        scanf("%d", &arr[i]);

    }

    int temp = arr[n - 1];

    for (int i=n-1; i>0; i--) {

        arr[i] = arr[i-1];

    }

    arr[0] = temp;

    printf("Array after cyclic rotation: ");

    for (int i = 0; i < n; i++) {

        printf("%d ", arr[i]);

    }

    return 0;

}

**ANS 14. Given an array of n integers. The task is to print the duplicates in the given array. If there are no duplicates then print -1**

#include<stdio.h>

int main(){

   int n,arr[10], duparr[10], founddup = 0;

   printf("Enter number of elements in array: ");

   scanf("%d",&n);

   printf("Enter %d elements of the array: ",n);

   for (int i = 0; i < n; i++) {

        scanf("%d", &arr[i]);

    }

    printf("The duplicate elements are: \n");

    for (int i = 0; i < n; i++) {

        for (int j = i + 1; j < n; j++) {

            if (arr[i] == arr[j]) {

                int alreadyInDuparr = 0;

                for (int k = 0; k < founddup; k++) {

                    if (duparr[k] == arr[i]) {

                        alreadyInDuparr = 1;

                        break;

                    }

                }

                if (!alreadyInDuparr) {

                    duparr[founddup++] = arr[i];

                    printf("%d ", arr[i]);

                }

            }

        }

    }

    if (founddup == 0) {

        printf("-1");

    }

    return 0;

}