

20BCS042 MOHD ADIL

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#include <stdio.h>

#include <stdlib.h>

int A[20];

int Size;


void print();

void Insert1();

void Insert2();

void Insert3();

void Delete1();

void Delete2();

void Delete3();


int main(){

    printf("\nNumber of elements you want to enter Initially (<20): ");

    scanf("%d", &Size);


    printf("Enter the elements : ");

    for(int i=0; i<Size; i++){

        scanf("%d", &A[i]);

    }

    while(1){

        printf("\nPress 1 to add element in beginning");

        printf("\nPress 2 to add element at end");

        printf("\nPress 3 to add element at a certain position");

        printf("\nPress 4 to delete element from begining");

        printf("\nPress 5 to delete element from end");

        printf("\nPress 6 to delete element from any position");

        printf("\nPress 7 to exit the program");
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printf("\nEnter your choice: ");

int ch;

scanf("%d", &ch);

switch(ch){

    case 1 : Insert1();

        print();

        break;

    case 2 : Insert2();

        print();

        break;

    case 3 : Insert3();

        print();

        break;

    case 4 : Delete1();

        print();

        break;

    case 5 : Delete2();

        print();

        break;

    case 6 : Delete3();

        print();

        break;

    case 7 : printf("\nExiting from the program!");

        exit(0);

    default : printf("\nWrong choice!");

        break;

}

}

return 0;

}

void print(){
```

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printf("\nThe array is : ");

for(int i=0; i<Size; i++){
    printf("%d ", A[i]);
}
}

void Insert1(){
    if(Size>=20){
        printf("\nSize Overflow!!");
        return;
    }

    int v;

    printf("\nEnter the value you want to enter: ");
    scanf("%d", &v);

    for(int i=Size-1; i>=0; i--){
        A[i+1]=A[i];
    }

    A[0] = v;

    Size++;
}

void Insert2(){
    if(Size>=20){
        printf("\nSize Overflow!!");
        return;
    }

    int v;

    printf("\nEnter the value you want to enter: ");
    scanf("%d", &v);

    A[Size] = v;

    Size++;
}

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}

void Insert3(){
    if(Size>=20){
        printf("\nSize Overflow!!");
        return;
    }
    int v, pos;
    printf("\nEnter the value you want to enter: ");
    scanf("%d", &v);
    printf("\nEnter the position of this element: ");
    scanf("%d", &pos);

    for(int i=Size-1; i>=pos-1; i--){
        A[i+1]=A[i];
    }
    A[pos-1]= v;
    Size++;
}

void Delete1(){
    if(Size<=0){
        printf("\nSize underflow!!");
        return;
    }
    for(int i=0; i<Size-1; i++){
        A[i] = A[i+1];
    }
    Size--;
}

void Delete2(){
    if(Size<=0){
        printf("\nSize underflow!!");

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        return;
    }
    Size--;
}

void Delete3(){
    if(Size<=0){
        printf("\nSize underflow!!");
        return;
    }
    int pos;
    printf("\nEnter the position of this element: ");
    scanf("%d", &pos);

    for(int i=pos-1; i<Size-1; i++){
        A[i] = A[i+1];
    }
    Size--;
}
```

OUTPUT

```

PS C:\Users\aadil\Downloads> cd "c:\Users\aadil\Downloads\" ; if ($?) { gcc temp.c -o temp } ; if ($?) { .\temp }

Number of elements you want to enter Initially (<20): 10
Enter the elements : 1 2 3 4 5 6 7 8 9 10

Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 1

Enter the value you want to enter: 0

The array is : 0 1 2 3 4 5 6 7 8 9 10
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 2

Enter the value you want to enter: 11

The array is : 0 1 2 3 4 5 6 7 8 9 10 11
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 3

Enter the value you want to enter: 5

Enter the position of this element: 6

The array is : 0 1 2 3 4 5 5 6 7 8 9 10 11
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 4

The array is : 1 2 3 4 5 5 6 7 8 9 10 11
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 5

The array is : 1 2 3 4 5 5 6 7 8 9 10
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 6

Enter the position of this element: 5

The array is : 1 2 3 4 5 6 7 8 9 10
Press 1 to add element in beginning
Press 2 to add element at end
Press 3 to add element at a certain position
Press 4 to delete element from beginning
Press 5 to delete element from end
Press 6 to delete element from any position
Press 7 to exit the program
Enter your choice: 7

Exiting from the program!
PS C:\Users\aadil\Downloads>

```

