|  |
| --- |
|  |
|  |  |

Data Structures and Algorithms

1. Write the program for deleting an element from the beginning and from any position.

#include <stdio.h>

void main() {

printf("Enter 5 Array Elements");

int arr[5],var,i,pos;

for(int i=0;i<5;i++)

{

printf("\nEnter the value:");

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

}

printf("Original Array:\n");

for(i=0;i<5;i++)

{

printf("a[%d] = %d\n",i,arr[i]);

}

printf("Deleting from beginning");

for(i=0;i<5;i++)

{

arr[i]=arr[i+1];

}

printf("\nOn Deletion, new array we get is\n");

for(i=0;i<5-1;i++)

{

printf("a[%d] = %d\n",i,arr[i]);

}

printf("\nDeleting from any position");

printf("\nEnter the position from which the number has to be deleted\n");

scanf("%d",&pos);

for(i=pos;i<5;i++)

{

arr[i]=arr[i+1];

}

printf("\nOn Deletion, new array we get is\n");

for(i=0;i<3;i++)

{

printf("a[%d] = %d\n",i,arr[i]);

}

}

2. Write the program for printing the array after rotating it k times towards left, where k would be taken as user input.

#include <stdio.h>

void left\_rotate(int arr[], int n);

void rotate\_left(int arr[], int d, int n)

{

int i;

for (i = 0; i < d; i++)

left\_rotate (arr, n);

}

void left\_rotate (int arr[], int n)

{

int temp = arr[0], i;

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

arr[i] = arr[i + 1];

arr[i] = temp;

}

void printArray(int arr[], int n)

{

int i;

for (i = 0; i < n; i++)

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

}

int main()

{

int arr[] = { 1, 2, 3, 4, 5, 6, 7 };

rotate\_left(arr, 2, 7);

printArray(arr, 7);

return 0;

}