1. Write a program to read and print elements of an array.

IPO:

Input: elements of the array

Process: using for loop, taking input and printing the input

Output: read and print the elements of the array

Code:

#include <stdio.h>

int main()

{

int a[5];

printf("Enter the elements ");

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

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

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

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

}

Output:



1. Write a program to find the sum of elements of an array.

IPO:

Input: array , arr

Process: adding the elements of the array to sum

Output: Sum of the elements in the array

Code:

#include<stdio.h>

void main()

{

int arr[] = {1,2,3,4,5,6}, sum = 0;

for(int i = 0 ; i < 6; i++)

sum+=arr[i];

printf("Sum of elements of the array %d", sum);

}

Output:



1. Write a program to find the maximum and minimum element in an array.

IPO:

Input: array arr

Process: Using for loop and if max is less than the element max is assigned to that element similarly if min is greater than the element min is assigned to that element, the process will continue till the last element is compared

Output: Maximum and Minimum element in the array

Code:

#include<stdio.h>

void main()

{

int n,max, min;

scanf("%d",&n);

int arr[n];

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

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

max = arr[0];

min = arr[0];

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

{

if(max < arr[i])

max = arr[i];

else if(min > arr[i])

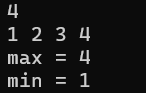
min = arr[i];

}

printf("max = %d\nmin = %d", max, min);

}

Output:



1. Write a program to reverse an array.

IPO:

Input: array a

Process: assigning the last element of a to the first element of b , and thus continuing the process

Output: Reverse the array

Code:

#include<stdio.h>

void main()

{

int a[5] = {1, 2, 3, 4, 5}, i, j;

int b[5];

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

b[i] = a[4 - i];

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

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

}

Output:



1. Write a program to search for an element in an array (linear search).

IPO:  
Input:element to be searched

Process: using for loop find the position of the the given element

Output: position of the element

#include<stdio.h>

void main()

{

int a[5] = {1,2,3,4,5},i,n;

printf("enter the element to be searched ");

scanf("%d",&n);

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

{

if(n==a[i])

{

printf("%d is found at the position %d ",n,i+1);

}

}

}

Output:



1. Write a program to sort an array in ascending order.

IPO:

Input: array a

Process: Using for loop comparing the first element of the array with the other elements if the first element of the array is greater than the second element their position are switched , which is followed till the last element

Output: ascending order of the array

Code:

#include<stdio.h>

void main()

{

int a[5] = {2, 4, 3, 0, 1}, i , j;

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

{

for(j=i+1; j < 5; j++)

{

if(a[i] > a[j])

{

int temp = a[i];

a[i] = a[j];

a[j] = temp;

}

}

}

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

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

}

Output:



1. Write a program to insert an element in an array.

IPO:

Input: element and position

Process: using for loop assigning the last element to the previous element and so on.

Output: insert the element in the array

#include <stdio.h>

void main()

{

int array[5] = {1,2,3,4,5}, n = 5, i, element, position;

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

scanf("%d", &element);

printf("Enter the position to insert the element ");

scanf("%d", &position);

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

array[i] = array[i - 1];

}

array[position - 1] = element;

n++;

printf("Array after insertion:\n");

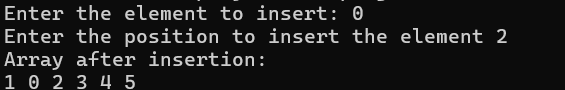
for (i = 0; i < n; i++) {

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

}

}

Output:



1. Write a program to delete an element from an array.

#include <stdio.h>

int main() {

int array[5] = {1,2,3,4,5}, n = 5, i, position;

printf("Enter the position of the element to delete ");

scanf("%d", &position);

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

array[i] = array[i + 1];

}

n--;

printf("Array after deletion:\n");

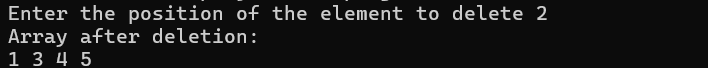
for (i = 0; i < n; i++) {

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

}

}

Output:



1. Write a program to find the frequency of elements in an array.

IPO

Input: array

Process: using for loop , count the frequency of the element by incrementing the value of count and

Code:

#include <stdio.h>

void main()

{

int arr[10] = {1,1,3,2,4,5,2,4,3,6}, n = 10, i, j, count;

printf("\nElement | Frequency\n");

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

{

int c = 0;

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

{

if(arr[i] == arr[j])

{

c = 1;

break;

}

}

if(c == 1)

continue;

count = 1;

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

{

if(arr[i] == arr[j])

{

count++;

}

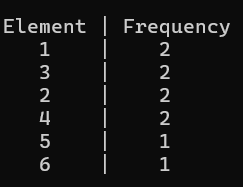
}

printf(" %d | %d\n", arr[i], count);

}

}

Output:



1. Write a program to merge two arrays.

IPO:

Input: two arrays , a and b

Process: using for loop assign the respective elements from a and b to c

Output: merge arrays a and b

Process:

#include<stdio.h>

int main()

{

int a[5] = {1, 2, 3, 4, 5} , b[6] = {6, 7, 8, 9, 10, 11} , temp i, j;

int c[11];

j = 0;

for( i = 0; i < 11 ;i++)

{

if(i < 5)

c[i] = a[i];

else

{

c[i] = b[j];

j++;

}

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

}

}

Ouput:

