1️⃣ Program to Read and Print Elements of an Array

```
include <stdio.h>
void  main()
{
   int n, i, arr[100];
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++)
      scanf("%d", &arr[i]);
   printf("Array elements are:\n");
   for(i=0; i<n; i++)
      printf("%d ", arr[i]);
}
```

Input:

5
1 2 3 4 5

Output:

Array elements are:
1 2 3 4 5

2️⃣ Program to Find the Sum of Elements of an Array

```
#include <stdio.h>
void main() {
   int n, i, arr[100], sum = 0;
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++){
      scanf("%d", &arr[i]);
      sum += arr[i];
   }
```

```
    printf("Sum of elements = %d", sum);
}
```

Input:

```
5
1 2 3 4 5
```

Output:

```
Sum of elements = 15
```

3️⃣ Program to Find Maximum and Minimum Element

```
#include <stdio.h>
void main() {
    int n, i, arr[100], max, min;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    printf("Enter %d elements:\n", n);
    for(i=0; i<n; i++)
        scanf("%d", &arr[i]);
    max = min = arr[0];
    for(i=1; i<n; i++){
        if(arr[i]>max) max=arr[i];
        if(arr[i]<min) min=arr[i];
    }
    printf("Maximum = %d\nMinimum = %d", max, min);
}
```

Input:

```
5
10 3 45 6 2
```

Output:

```
Maximum = 45
```

Minimum = 2

4️⃣ Program to Reverse an Array

```
#include <stdio.h>
void main() {
   int n, i, arr[100];
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++)
      scanf("%d", &arr[i]);
   printf("Reversed array:\n");
   for(i=n-1; i>=0; i--)
      printf("%d ", arr[i]);
}
```

Input:

```
5
1 2 3 4 5
```

Output:

```
Reversed array:
5 4 3 2 1
```

5️⃣ Program for Linear Search

```
#include <stdio.h>
void main() {
   int n, i, arr[100], key, found=0;
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++)
      scanf("%d", &arr[i]);
   printf("Enter element to search: ");
```

```
  scanf("%d", &key);
  for(i=0; i<n; i++){
    if(arr[i]==key){
      printf("Element found at position %d", i+1);
      found=1;
      break;
    }
  }
  if(!found) printf("Element not found");
}
```

Input:

```
5
10 20 30 40 50
30
```

Output:

```
Element found at position 3
```

6️⃣ Program to Sort an Array in Ascending Order

```
include <stdio.h>
void main() {
  int n, i, j, temp, arr[100];
  printf("Enter number of elements: ");
  scanf("%d", &n);
  printf("Enter %d elements:\n", n);
  for(i=0; i<n; i++)
    scanf("%d", &arr[i]);
  for(i=0; i<n-1; i++){
    for(j=i+1; j<n; j++){
      if(arr[i]>arr[j]){
        temp=arr[i];
        arr[i]=arr[j];
        arr[j]=temp;
      }
```

```
    }
  }
  printf("Array in ascending order:\n");
  for(i=0; i<n; i++)
    printf("%d ", arr[i]);
}
```

Input:

```
5
5 3 1 4 2
```

Output:

```
Array in ascending order:
1 2 3 4 5
```

7️⃣ Program to Insert an Element in an Array

```
#include <stdio.h>
void main() {
  int n, i, pos, value, arr[100];
  printf("Enter number of elements: ");
  scanf("%d", &n);
  printf("Enter %d elements:\n", n);
  for(i=0; i<n; i++)
    scanf("%d", &arr[i]);
  printf("Enter position to insert: ");
  scanf("%d", &pos);
  printf("Enter value to insert: ");
  scanf("%d", &value);
  for(i=n; i>=pos; i--)
    arr[i]=arr[i-1];
  arr[pos-1]=value;
  n++;
  printf("Array after insertion:\n");
  for(i=0; i<n; i++)
```

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

Input:

```
5
1 2 4 5 6
3
3
```

Output:

```
Array after insertion:
1 2 3 4 5 6
```

8️⃣ Program to Delete an Element from an Array

```
#include <stdio.h>
void main() {
   int n, i, pos, arr[100];
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++)
      scanf("%d", &arr[i]);
   printf("Enter position to delete: ");
   scanf("%d", &pos);
   for(i=pos-1; i<n-1; i++)
      arr[i]=arr[i+1];
   n--;
   printf("Array after deletion:\n");
   for(i=0; i<n; i++)
      printf("%d ", arr[i]);
}
```

Input:

5
1 2 3 4 5
3

Output:

Array after deletion:
1 2 4 5

9️⃣ Program to Find Frequency of Elements in an Array

```
#include <stdio.h>
void  main() {
   int n, i, j, count, arr[100], visited[100]={0};
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i=0; i<n; i++)
      scanf("%d", &arr[i]);
   printf("Frequency of each element:\n");
   for(i=0; i<n; i++){
      if(visited[i]==1) continue;
      count=1;
      for(j=i+1; j<n; j++){
         if(arr[i]==arr[j]){
            count++;
            visited[j]=1;
         }
      }
      printf("%d occurs %d times\n", arr[i], count);
   }
}
```

Input:

6

1 2 2 3 1 4

Output:

1 occurs 2 times
2 occurs 2 times
3 occurs 1 times
4 occurs 1 times

➡️10.Program to merge two arrays

```
include <stdio.h>
void main() {
   int n1, n2, i, arr1[100], arr2[100], merge[200];
   printf("Enter number of elements in first array: ");
   scanf("%d", &n1);
   printf("Enter %d elements:\n", n1);
   for(i=0; i<n1; i++)
      scanf("%d", &arr1[i]);
   printf("Enter number of elements in second array: ");
   scanf("%d", &n2);
   printf("Enter %d elements:\n", n2);
   for(i=0; i<n2; i++)
      scanf("%d", &arr2[i]);
   for(i=0; i<n1; i++)
      merge[i]=arr1[i];
   for(i=0; i<n2; i++)
      merge[n1+i]=arr2[i];
   printf("Merged array:\n");
   for(i=0; i<n1+n2; i++)
      printf("%d ", merge[i]);
}
```

Input:

3
1 2 3
3
4 5 6

Output:

Merged array:
1 2 3 4 5 6.