1-D Array

1. Write a Program to read n elements in array and display them in reverse order.

```
#include<stdio.h>
int main(){
	int num[100],n,i;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter the %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);
	}
	printf("Reverse order is\n");
	for(i=n-1;i>=0;i--){
		printf("%d \t",num[i]);
	}
	return 0;
}
```

2. WAP to read n numbers in an array and find the sum of even numbers and odd numbers and count them also.

```
#include<stdio.h>

int main(){
	int num[100],n,i,esum=0,osum=0,ecount=0,ocount=0;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);
	}
	for(i=0;i<n;i++){
		if(num[i]%2==0){
		esum=esum+num[i];
		ecount++;}
	}
	for(i=0;i<n;i++){
		if(num[i]%2==0){
		osum=osum+num[i];
		ocount++;}
	}
	printf("\nSum of even number is %d",esum);
	printf("\n count of even number is%d",ecount);
	printf("\nSum of odd number is %d",osum);
	printf("\n count of even number is%d",ocount);

	return 0;

}
```

• Sum of all numbers

```
#include<stdio.h>
int main(){
	int num[100],n,i,sum=0;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);
	}
	for(i=0;i<n;i++){
		sum=sum+num[i];
	}
	printf("\nThe sum of the entered array element=%d",sum);
	return 0;

}
```

Find the sum of odd numbers only

```
#include<stdio.h>
int main(){
	int num[100],n,i, osum=0;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);}
	for(i=0;i<n;i++){
		if(num[i]%2!=0){
		osum=osum+num[i];
		}
	}
	printf("\nSum of odd number is %d",osum);

	return 0;

}
```

• Find the sum of even numbers only

```
#include<stdio.h>
int main(){
	int num[100],n,i, esum=0;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);}
	for(i=0;i<n;i++){
		if(num[i]%2==0){
		esum=esum+num[i];
		}
	}
	printf("\nSum of even number is %d",esum);

	return 0;}
```

. Write a program to read n number from keyboard and find the smallest and largest number using array.

```
#include<stdio.h>
int main(){
	int num[100],n,i,large,small;
	printf("Enter the array element\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);
	}
	large=num[0];
	small=num[0];
	for(i=0;i<n;i++){
		if(num[i]>large){
			large=num[i];
		}}
	for(i=0;i<n;i++){
		if(num[i]<small){
			small=num[i];
		}
	}
	printf("Largest Number=%d",large);
	printf("Smallest Number=%d",small);
	return 0;

}
```

(Write a C program using array to find largest and smallest number from the list of 100 given numbers).

```
#include<stdio.h>
int main(){
	int num[100],i,large,small;
	for(i=0;i<100;i++){
		scanf("%d",&num[i]);
	}
	large=num[0];
	small=num[0];
	for(i=0;i<100;i++){
		if(num[i]>large){
			large=num[i];
		}}
	for(i=0;i<100;i++){
		if(num[i]<small){
			small=num[i];
		}
	}
	printf("Largest Number=%d",large);
	printf("Smallest Number=%d",small);
	return 0;

}
```

4. WAP to check whether the given number is present in an array or not and if present find its position.

```
#include<stdio.h>
int main(){
	int num[100],num1,n,i,pos,flog=0;
	printf("Enter the number of element:\n");
	scanf("%d",&n);
	printf("Enter %d array element\n",n);
	for(i=0;i<n;i++){
		scanf("%d",&num[i]);}
	printf("Enter the element you want to search\n");
	scanf("%d",&num1);
	for(i=0;i<n;i++){
		if(num1==num[i]){
			flog=1;
			pos=i;
			break;
		}
	}
	if(flog==1){
		printf("Your element is found at index at num[%d]\n",pos);
	}
	else{
		printf("Your element is not found \n");
	}
	return 0;
	}
```

(Write a program to search an element in one-dimensional array containing five integer elements)

```
#include<stdio.h>
int main(){
	int num[5],num1,i,pos,flog=0;
	printf("Enter 5array element\n");
	for(i=0;i<5;i++){
		scanf("%d",&num[i]);}
	printf("Enter the element you want to search\n");
	scanf("%d",&num1);
	for(i=0;i<5;i++){
		if(num1==num[i]){
			flog=1;
			pos=i;
			break;
		}
	}
	if(flog==1){
		printf("Your element is found at index at num[%d]\n",pos);
```

```
        }
        else{
                printf("Your element is not found \n");
        }
        return 0;
        }
```

WAP to input n number in an array and sort them in Ascending order

```
#include<stdio.h>
int main()
{
   int num[100],i,j,n,asen;
   printf("Enter number of array elements \n");
   scanf("%d",&n);
   printf("Enter %d elements\n",n);
   for(i=0;i<n;i++)
   {
   scanf("%d",&num[i]);
   }
   printf("\nArray before asending:\n");
   for(i=0;i<n;i++){
   printf("%d\t",num[i]);}
   for(i=0;i<n-1;i++) {
   for(j=0;j<n-i-1;j++){
   if(num[j]<num[j+1]){
   asen=num[j];
   num[j]=num[j+1];
   num[j+1]=asen;
   }} }
   printf("\narray in ascending oder are:\n");
   for(i=0;i<n;i++)
   {
   printf("%d\t",num[i]);
   }
   return 0;}
```

• WAP to input n number in an array and sort them in Descending order.

```
#include<stdio.h>
int main()
{
   int num[100],i,j,n,descen;
   printf("Enter number of array elements \n");
   scanf("%d",&n);
   printf("Enter %d elements\n",n);
   for(i=0;i<n;i++)
   {
```

```
   scanf("%d",&num[i]);
   }
   printf("\nArray before descending:\n");
   for(i=0;i<n;i++){
   printf("%d\t",num[i]);}
   for(i=0;i<n-1;i++) {
   for(j=0;j<n-i-1;j++){
   if(num[j]<num[j+1]){
   descen=num[j];
   num[j]=num[j+1];
   num[j+1]=descen;
   }} }
   printf("\narray in descending oder are:\n");
   for(i=0;i<n;i++)
   {
   printf("%d\t",num[i]);
   }
   return 0;}
```

WAP to read marks of n students and print the marks of top five.

```
#include<stdio.h>
int main(){
   float mark[100];
         int i,j,n,descen;
   printf("Enter number of student \n");
   scanf("%d",&n);
   printf("Enter %d student\n",n);
   for(i=0;i<n;i++)
   {
   scanf("%f",&mark[i]);
   }
   for(i=0;i<n-1;i++) {
   for(j=0;j<n-i-1;j++){
   if(mark[j]<mark[j+1]){
   descen=mark[j];
   mark[j]=mark[j+1];
   mark[j+1]=descen;
   }} }
   printf("\nTop five marks:\n");
   for(i=0;i<5;i++)
   {
   printf("%.2f\t",mark[i]);
   }

   return 0;}
```

(Write a program to read n numbers and find third largest element among n numbers.)

```
#include<stdio.h>
int main()
{
   float num[100];
          int i,j,n,descen;
   printf("Enter number of student \n");
   scanf("%d",&n);
   printf("Enter %d student\n",n);
   for(i=0;i<n;i++)
   {
   scanf("%f",&num[i]);
   }
   for(i=0;i<n-1;i++) {
   for(j=0;j<n-i-1;j++){
   if(num[j]<num[j+1]){
   descen=num[j];
   num[j]=num[j+1];
   num[j+1]=descen;
   }} }
   printf("\nThe Third largest nums is%.2f",num[2]);
   return 0;}
```