```c
/*
Title- Write a C program to find the sum of all the elements of an array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,sum=0;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(i=0;i<no_of_elements;i++)
        {
            sum=sum+array[i];
        }
        printf("sum of all elements of array is : %d\n",sum);
    }
    else
    {
than , greater than and equal to zero.
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- An array consist of Integers. Write a C program to count the number of
elements less
than , greater than and equal to zero.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,less=0,greater=0,equal=0;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(i=0;i<no_of_elements;i++)
        {
            if(array[i]<0)
            {
                less++;
            }
            else
```

```c
                if(array[i]>0)
                {
                    greater++;
                }
                else
                {
                    equal++;
                }
            }
        printf("less than zero: %d\ngreater than zero: %d\nequals to zero: %d\n",less,greater,equal);
        }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- Write a C program that return the positions of the pallindrome element in array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,a,n;
    printf("enter how many elements do you want to enter into the array(must be < 20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        printf("position of palindrome elements are: [");
        for(i=0;i<no_of_elements;i++)
        {
            n=array[i];
            a=n%10;
            n=n/10;
            while(n!=0)
            {
                a=a*10+(n%10);
                n=n/10;
            }
            if(array[i]==a)
            {
                printf("%d, ",i+1);
            }
        }
        printf("]\n");
    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}
```

```c
/*
Title- Write a C program to sort first half of array in ascending order and second half of
array in descending order.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp,element;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(j=0;j<(no_of_elements/2);j++)
        {
            for(i=j+1;i<(no_of_elements/2);i++)
            {
                if(array[j]>array[i])
                {
                    temp=array[j];
                    array[j]=array[i];
                    array[i]=temp;
                }
            }
        }
        for(j=(no_of_elements/2);j<no_of_elements;j++)
        {
            for(i=j+1;i<no_of_elements;i++)
            {
                if(array[j]<array[i])
                {
                    temp=array[j];
                    array[j]=array[i];
                    array[i]=temp;
                }
            }
        }

        printf("array elements are: [");
        for(i=0;i<no_of_elements;i++)
        {
            printf("%d, ",array[i]);
        }
        printf("]\n");

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}
```

```c
/*
Title- Write a C program to copy the elements of one array into another array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array1[20],array2[20],no_of_elements,i,sum=0;
    printf("enter how many elements do you want to enter into the array1(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array1 elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array1[i]);
        }
        for(i=0;i<no_of_elements;i++)
        {
            array2[i]=array1[i];
        }
        printf("array2 elements are: [");
        for(i=0;i<no_of_elements;i++)
        {
            printf("%d, ",array2[i]);
        }
        printf("]\n");
    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- Write a C program to sort only even numbers in given array.
Eg.
Input: 45 8 75 29 5 49 56 22 14 497 288 18 2
Output: 45 2 75 29 5 49 8 14 18 497 22 56 288.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(j=0;j<no_of_elements;j++)
```

```c
        {
            for(i=j+1;i<no_of_elements;i++)
            {
                if(array[j]%2==0 && array[i]%2==0)
                {
                    if(array[j]>array[i])
                    {
                        temp=array[j];
                        array[j]=array[i];
                        array[i]=temp;
                    }
                }
            }
        }
        printf("array elements are: [");
        for(i=0;i<no_of_elements;i++)
        {
            printf("%d, ",array[i]);
        }
        printf("]\n");

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- Write a program in C to separate odd and even integers in same array
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp,element;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(j=0;j<no_of_elements;j++)
        {
            for(i=j+1;i<no_of_elements;i++)
            {
                if(array[i]%2==0)
                {
                    temp=array[j];
                    array[j]=array[i];
                    array[i]=temp;
                    break;
                }
            }
        }
        printf("array elements are: [");
        for(i=0;i<no_of_elements;i++)
```

```c
        {
            printf("%d, ",array[i]);
        }
        printf("]\n");

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- Write a program in C to count the frequency of each element of an array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,flag=0,count,x;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        printf("frequency of elements is: [");
        for(i=0;i<no_of_elements;i++)
        {
            flag=0;
            count=1;
            x=i-1;
            while(x>=0)
            {
                if(array[i]==array[x])
                {
                    flag=1;
                    break;
                }
                x--;
            }
            if(flag==0)
            {
                for(j=i+1;j<no_of_elements;j++)
                {
                    if(array[i]==array[j])
                    {
                        count++;
                    }
                }
                printf("%d= %d, ",array[i],count);
            }
        }
        printf("]\n");

    }
```

```c
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title- Write a program in C to print all unique elements in an array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,flag;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        printf("unique elements are : [");
        for(i=0;i<no_of_elements;i++)
        {
            for(j=0;j<no_of_elements;j++)
            {
                if(array[i]==array[j] && i!=j)
                {
                    flag=1;
                    break;
                }
                else
                {
                    flag=0;
                }
            }
            if(flag==0)
            {
                printf("%d, ",array[i]);
            }
        }
        printf("]\n");

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title-Write a program in C to find the maximum and minimum element in an array.
Author- Bhakare Mahesh Santosh
ID- 492
```

```c
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,max,min;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        max=array[0];
        for(i=0;i<no_of_elements;i++)
        {
            if(array[i]>max)
            {
                max=array[i];
            }
        }
        min=array[0];
        for(i=0;i<no_of_elements;i++)
        {
            if(array[i]<min)
            {
                min=array[i];
            }
        }
        printf("maximum element is: %d\n",max);
        printf("minimum element is: %d\n",min);
    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title-Write a program in C to insert New value in the array (sorted list ).
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp,element;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(j=0;j<no_of_elements;j++)
        {
            for(i=j+1;i<no_of_elements;i++)
```

```c
        {
            if(array[j]>array[i])
            {
                temp=array[j];
                array[j]=array[i];
                array[i]=temp;
            }
        }
    }
    printf("enter the element which you want to add in array: ");
    scanf("%d",&element);
    for(i=no_of_elements;i>=0;i--)
    {
        if(array[i-1]>element && i!=0)
        {
            array[i]=array[i-1];
        }
        else
        {
            array[i]=element;
            break;
        }
    }

    printf("array elements are: [");
    for(i=0;i<(no_of_elements+1);i++)
    {
        printf("%d, ",array[i]);
    }
    printf("]\n");

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}




/*
Title-Write a program in C to delete an element at desired position from an array.
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp,pos;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        printf("enter the position from which you want to delete the element: ");
        scanf("%d",&pos);
        if(pos<=no_of_elements)
        {
            for(pos-=1;pos<no_of_elements;pos++)
```

```c
                {
                    array[pos]=array[pos+1];
                }
                no_of_elements--;
                printf("array elements are: [");
                for(i=0;i<no_of_elements;i++)
                {
                    printf("%d, ",array[i]);
                }
                printf("]\n");
            }
            else
            {
                printf("you entered wrong position\n");
            }


    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}


/*
Title-Write a program in C to find the second largest element in an array..
Author- Bhakare Mahesh Santosh
ID- 492
Batch- TechnOrbit(PPA-8)
*/
#include<stdio.h>
void main()
{
    int array[20],no_of_elements,i,j,temp,pos;
    printf("enter how many elements do you want to enter into the array(must be <
20): ");
    scanf("%d",&no_of_elements);
    if(no_of_elements>0 && no_of_elements <=20)
    {
        printf("Enter array elements:\n");
        for(i=0;i<no_of_elements;i++)
        {
            scanf("%d",&array[i]);
        }
        for(j=0;j<no_of_elements;j++)
        {
            for(i=j+1;i<no_of_elements;i++)
            {
                if(array[j]<array[i])
                {
                    temp=array[j];
                    array[j]=array[i];
                    array[i]=temp;
                }
            }
        }
        printf("second largest element in array is: %d\n",array[1]);

    }
    else
    {
        printf("sorry, you have entered wrong no_of_elements.\n" );
    }
}
```