)To read and print elements in an array.

```c
#include <stdio.h>

int main() {
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
        printf("%d ",arr[i]);
    }

}
```

```
/tmp/thuA6M9Xrl.o
3
16
13
14
16 13 14

=== Code Execution Successful ===
```

2)To print all negative no in an array.

```c
#include <stdio.h>

int main() {
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
        if(arr[i]<0)
        printf("%d ",arr[i]);
    }

}
```

```
/tmp/WSrxkVxIIA.o
5
12
-6
5
-10
-18
-6 -10 -18

=== Code Execution Successful ===
```

3)Sum of all array elements

```c
#include <stdio.h>

int main() {
    int n,sum=0;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
        sum+=arr[i];
    }
    printf("Sum:%d",sum);

}
```

```
/tmp/FfSAMapcOo.o
5
10
20
30
40
50
Sum:150

=== Code Execution Successful ===
```

4)Find maximum and minimum elements in an array

```c
#include <stdio.h>

int 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=0;i<n;i++)
   {
      if(max<arr[i])
      max=arr[i];
      if(min>arr[i])
      min=arr[i];
   }
   printf("Maximum:%d;Minimum:%d",max,min);

}
```

```
/tmp/PHy31xHZPr.o
5
12
34
-10
-5
60
Maximum:60;Minimum:-10

=== Code Execution Successful ===
```

5)To find 2nd largest element

```c
#include <stdio.h>
int main() {
   int n,max1,max2;
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
      scanf("%d",&arr[i]);
   }
   max1=arr[0];
   max2=arr[0];
   for(int i=0;i<n;i++)
   {
      if(max1<arr[i])
      {
         max2=max1;
         max1=arr[i];
      }
      else if(max2<arr[i] && max1>arr[i])
      {
         max2=arr[i];
      }
   }
   printf("Maximum1:%d;Maximum2:%d",max1,max2);

}
```

```
/tmp/AEz9hiIAD7.o
3
10
60
-5
Maximum1:60;Maximum2:10

=== Code Execution Successful ===
```

6)Count total no of odd and even numbers in an array

```c
#include <stdio.h>
int main() {
    int n,even=0,odd=0;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
        if(arr[i]%2==0)
            even+=1;
        else
            odd+=1;
    }
    printf("Even:%d;Odd:%d",even,odd);

}
```

```
/tmp/lts9BSoMIR.o
10
-1
2
-3
-4
5
-6
-7
8
9
-10
Even:5;Odd:5

=== Code Execution Successful ===
```

7)To count total no of negative no in an array

main.c Run Output

```c
#include <stdio.h>

int main() {
    int n,count=0;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
        if(arr[i]<0)
        count++;
    }
    printf("count:%d",count);

}
```

```
/tmp/2PYSS9Auiw.o
5
-10
5
-7
4
-2
count:3

=== Code Execution Successful ===
```

8)Print the Copy of an array

```c
#include <stdio.h>

int main() {
   int n,count=0;
   scanf("%d",&n);
   int arr[n],copy[n];
   for(int i=0;i<n;i++)
   {
       scanf("%d",&arr[i]);
   }
   for(int i=0;i<n;i++)
   {
       copy[i]=arr[i];
       printf("%d ",copy[i]);
   }
}
```

```
/tmp/zg453FOBP9.o
5
1
2
6
7
8
1 2 6 7 8

=== Code Execution Successful ===
```

9)To insert an element in an array

```c
#include <stdio.h>
int main() {
    int n;
    scanf("%d",&n);
    int arr[n+1];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    int position,element;
    printf("Enter position and element:");
    scanf("%d %d",&position,&element);
    for(int i=n;position-1<i;i--)
    {
      arr[i]=arr[i-1];
    }
    arr[position-1]=element;
    for(int i=0;i<=n;i++)
    {
        printf("%d ",arr[i]);
    }
}
```

```
/tmp/Dq9hpEwqy4.o
3
11
13
14
Enter position and element:2
12
11 12 13 14

=== Code Execution Successful ===
```

10)To delete an element from an array

main.c

Run

Output

```c
#include <stdio.h>
int main() {
    int n;
    scanf("%d",&n);
    int arr[n-1];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    int position;
    printf("Enter position :");
    scanf("%d",&position);
    for(int i=position-1;i<n;i++)
    {
      arr[i]=arr[i+1];
    }
    for(int i=0;i<n-1;i++)
    {
        printf("%d ",arr[i]);
    }
}
```

```
/tmp/txsm4pMWWn.o
3
11
13
14
Enter position :2
11 14

=== Code Execution Successful ===
```

11)To count the frequency of each element in an array

```c
#include <stdio.h>
int main() {
   int n,count;
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
       scanf("%d",&arr[i]);
   }
   for(int i=0;i<n;i++)
   {
       count=1;
      for(int j=i+1;j<n;j++)
      {
          if(arr[i]!=-1)
          {
              if(arr[i]==arr[j])
              {
              count++;
              arr[j]=-1;
              }
          }
      }
      if(arr[i]!=-1)
      printf("frequency of %d is %d \n",arr[i],count);
   }
}
```

```
/tmp/3PolmWvl8z.o
5
1
2
2
5
9
frequency of 1 is 1
frequency of 2 is 2
frequency of 5 is 1
frequency of 9 is 1


=== Code Execution Successful ===
```

12)To print all unique elements in an array.

```c
#include <stdio.h>
int main() {
   int n,count;
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
       scanf("%d",&arr[i]);
   }
   for(int i=0;i<n;i++)
   {
       count=1;
      for(int j=i+1;j<n;j++)
      {
          if(arr[i]!=-1)
          {
              if(arr[i]==arr[j])
              {
              count++;
              arr[j]=-1;
              }
          }
      }
      if(arr[i]!=-1)
      {
          if(count<=1)
          printf("%d ",arr[i]);
      }
   }
}
```

```
/tmp/KHQSp919la.o
5
1 3 1 4 5
3 4 5

=== Code Execution Successful ===
```

13)To count total number of duplicate elements

```c
#include <stdio.h>
int main() {
   int n,count=0;
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
      scanf("%d",&arr[i]);
   }
   for(int i=0;i<n;i++)
   {
     for(int j=i+1;j<n;j++)
     {
        if(arr[i]!=-1)
        {
           if(arr[i]==arr[j])
             arr[j]=-1;
        }
     }
     if(arr[i]==-1)
       count++;
   }
   printf("Duplicate count:%d",count);
}
```

```
/tmp/QSlJ76ZM9m.o
6
1 2 4 2 1 3
Duplicate count:2

=== Code Execution Successful ===
```

14)To delete all duplicate elements in an array

```c
#include <stdio.h>
int main() {
   int n;
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
      scanf("%d",&arr[i]);
   }
   for(int i=0;i<n;i++)
   {
     for(int j=i+1;j<n;j++)
     {
           if(arr[i]==arr[j])
           {
              for(int k=j;k<n-1;k++)
              {
                 arr[k]=arr[k+1];
              }
              n--;
              j--;
           }
     }
   }
   for(int i=0;i<n;i++)
   {
      printf("%d ",arr[i]);
   }
}
```

```
/tmp/eSOf7qR3c4.o
6
1 2 3 3 4 2
1 2 3 4

=== Code Execution Successful ===
```

15)To merge two array to 3rd array

```c
#include <stdio.h>
int main() {
    int n1,n2;
    printf("Enter array1 size:");
    scanf("%d",&n1);
    int arr1[n1];
    printf("Enter the array1 elements:");
    for(int i=0;i<n1;i++)
    {
        scanf("%d",&arr1[i]);
    }
    printf("Enter array2 size:");
    scanf("%d",&n2);
    int arr2[n2];
    printf("Enter the array2 elements:");
    for(int i=0;i<n2;i++)
    {
        scanf("%d",&arr2[i]);
    }
    int size=n1+n2,marr[size];
    int index1=0,index2=0;
    int i=0;
    for(i=0;i<size;i++)
    {
     if(index1>=size || index2>=size)
     break;
     if(arr1[index1]<arr2[index2])
     {
         marr[i]=arr1[index1];
         index1++;
     }
     else if(arr1[index1]>arr2[index2])
     {
         marr[i]=arr2[index2];
         index2++;
     }
    }
     while(index1<n1)
    {
     marr[i];
      i++;
     index1--;
    }
    while(index2<n2)
    {
     marr[i];
      index2++;
      i--;
    }

    for(int i=0;i<size;i++)
    {
        printf("%d ",marr[i]);
    }
}
```

```
/tmp/4cMbBXPUc4.o
Enter array1 size:3
Enter the array1 elements:1 3 5
Enter array2 size:2
Enter the array2 elements:2 4
1 2 3 4 5

=== Code Execution Successful ===
```

16)To reverse an array

```c
#include <stdio.h>
int main() {
    int n1;
    printf("Enter array1 size:");
    scanf("%d",&n1);
    int arr[n1];
    printf("Enter the array1 elements:");
    for(int i=0;i<n1;i++)
    {
        scanf("%d",&arr[i]);
    }
    int temp=0,j=0;
    for(int i=n1-1;i>=j;i--)
    {
        temp=arr[j];
        arr[j]=arr[i];
        arr[i]=temp;
        j++;
    }
    for(int i=0;i<n1;i++)
    printf("%d ",arr[i]);

}
```

```
/tmp/32J18uJcs0.o
Enter array1 size:6
Enter the array1 elements:9 6 7 4 5 2
2 5 4 7 6 9

=== Code Execution Successful ===
```

17)To separate an array into even and odd

```c
#include <stdio.h>
int main() {
    int n1;
    printf("Enter array1 size:");
    scanf("%d",&n1);
    int arr[n1];
    printf("Enter the array1 elements:");
    for(int i=0;i<n1;i++)
    {
        scanf("%d",&arr[i]);
    }
    int ecount=0,ocount=0,even[n1],odd[n1];
    for(int i=0;i<n1;i++)
    {
        if(arr[i]%2==0)
        {
            even[ecount]=arr[i];
            ecount++;
        }
        else
        {
            odd[ocount]=arr[i];
            ocount++;
        }

    }
    printf("Even: ");
    for(int i=0;i<ecount;i++)
    printf("%d ",even[i]);
    printf("\nOdd: ");
    for(int i=0;i<ocount;i++)
    printf("%d ",odd[i]);
}
```

```
/tmp/BXeEN3uBAs.o
Enter array1 size:5
Enter the array1 elements:1 2 3 4 5
Even: 2 4
Odd: 1 3 5

=== Code Execution Successful ===
```

18)To find the target element

```c
#include <stdio.h>
int main() {
    int n1,search,i=0,flag;
    printf("Enter array1 size:");
    scanf("%d",&n1);
    int arr[n1];
    printf("Enter the array1 elements:");
    for(int i=0;i<n1;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("Enter the search element: ");
    scanf("%d",&search);
    for(i=0;i<n1;i++)
    {
        if(arr[i]==search)
        {
            flag=1;
            break;
        }
    }
  if(flag==1)
  printf("%d is found at %d",search,i+1);
  else
  printf("Not found");
}
```

```
/tmp/Q3TLFpNKbz.o
Enter array1 size:6
Enter the array1 elements:1 4 5 6 7 8
Enter the search element: 5
5 is found at 3

=== Code Execution Successful ===
```

19)To sort an array

```c
#include <stdio.h>
int main() {
    int n1,temp;
    printf("Enter array1 size:");
    scanf("%d",&n1);
    int arr[n1];
    printf("Enter the array1 elements:");
    for(int i=0;i<n1;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n1;i++)
    {
      for(int j=i+1;j<n1;j++)
      {
          if(arr[i]>arr[j])
          {
              temp=arr[i];
              arr[i]=arr[j];
              arr[j]=temp;
          }
      }
    }
    for(int i=0;i<n1;i++)
    printf("%d ",arr[i]);
}
```

```
/tmp/ZkVunpQXjy.o
Enter array1 size:5
Enter the array1 elements:1 8 5 9 0
0 1 5 8 9

=== Code Execution Successful ===
```

20)To sort odd and even numbers separately in an array.

```c
#include <stdio.h>
int main() {
    int n,i=0,temp,odd=0,even=0;
    scanf("%d",&n);
    int j=n-1,arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
        if(arr[i]%2==0)
        even++;
        else
        odd++;
    }
    while(i<j)
    {
        while(arr[i]%2==0)
        i++;
        while(arr[j]%2!=0)
        j--;
        if(i<j)
        {
            temp=arr[i];
            arr[i]=arr[j];
            arr[j]=temp;
            i++;
            j--;
        }
    }
    for(i=0;i<even;i++)
    {
        for(int j=i;j<even;j++)
        {
            if(arr[i]>arr[j])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    for(i;i<n;i++)
    {
        for(int j=i;j<n;j++)
        {
            if(arr[i]>arr[j])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    for(int i=0;i<n;i++)
        printf("%d ",arr[i]);


}
```

```
/tmp/4bRQq2RJpE.o
10
12 15 17 18 19 4 7 9 10 5
4 10 12 18 5 7 9 15 17 19

=== Code Execution Successful ===
```

21)Left rotate

```c
#include <stdio.h>
int main() {
    int n,first,N;
    scanf("%d",&n);
    printf("Enter rotate size: ");
    scanf("%d",&N);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
     for(int i=1;i<=N;i++)
     {
         first=arr[0];
         for(int i=0;i<n;i++)
         {
             arr[i]=arr[i+1];
         }
         arr[n-1]=first;
     }
     for(int i=0;i<n;i++)
     {
         printf("%d ",arr[i]);
     }


}
```

```
/tmp/wsGm6GRRNO.o
7
Enter rotate size: 4
1 5 6 7 8 9 10
8 9 10 1 5 6 7

=== Code Execution Successful ===
```

22)Right rotate

```c
#include <stdio.h>
int main() {
    int n,last,N;
    scanf("%d",&n);
    printf("Enter rotate size: ");
    scanf("%d",&N);
    int arr[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
     for(int i=1;i<=N;i++)
     {
         last=arr[n-1];
         for(int i=n-1;i>0;i--)
         {
             arr[i]=arr[i-1];
         }
         arr[0]=last;
     }
     for(int i=0;i<n;i++)
     {
         printf("%d ",arr[i]);
     }


}
```

```
/tmp/M16w9zPAcu.o
5
Enter rotate size: 3
2 6 7 4 5
7 4 5 2 6

=== Code Execution Successful ===
```