1. Write a program to calculate the sum of numbers stored in an array of size 10.Take array values from the user.

```c
#include<stdio.h>

int main()

{

  int a[10],sum=0,i,j;

      printf("Enter ten elements for adding:\n");

  for(i=0;i<10;i++)

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

  for(j=0;j<10;j++)

     sum = sum + a[j];

     printf("sum = %d",sum);

   return 0;

}
```

2. Write a program to calculate the average of numbers stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>

int main()

{

   int a[10],sum=0,average,i,j;

      printf("Enter ten elements:\n");

  for(i=0;i<10;i++)

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

  for(j=0;j<10;j++)

     sum = sum + a[j];

     average = sum/10;

     printf("Average = %d",average);

   return 0;

}
```

3. Write a program to calculate the sum of all even numbers and sum of all odd numbers, which are stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>

int main()
{
    int a[10],evensum=0,oddsum=0,i,j;
      printf("Enter ten elements:\n");
   for(i=0;i<10;i++)
     scanf("%d",&a[i]);
   for(j=0;j<10;j++)
    {
     if(a[j]%2==0)
      evensum = evensum+a[j];
     else
      oddsum = oddsum+a[j];
    }
   printf("Sum =%d\n",evensum);
   printf("Sum=%d\n",oddsum);
   return 0;
}
```

4. Write a program to find the greatest number stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>

int main()
{
    int a[10],max=0,i,j;
      printf("Enter ten elements:\n");
   for(i=0;i<10;i++)
     scanf("%d",&a[i]);
```

```
    for(j=0;j<10;j++)
    {
      if(max<a[j])
        max=a[j];
    }printf("Maximum value is %d",max);
    return 0;
}
```

5. Write a program to find the smallest number stored in an array of size 10. Take array values from the user.

```
#include<stdio.h>
int main()
{
    int a[10];
    int i,j,k,temp;
    printf("Enter ten numbers\n");
    for(k=0;k<10;k++)
    scanf("%d",&a[k]);
    for(i=0;i<9;i++)
    {
        for(j=i+1;j<10;j++)
          if(a[i]>a[j])
        {
        temp=a[i];
        a[i]=a[j];
        a[j]=temp;
        }
    }printf("Smallest number is :\n%d",a[0]);
    return 0;
}
```

6. Write a program to sort elements of an array of size 10. Take array values from the user.

```c
#include<stdio.h>

int main()

{

   int a[10];

   int i,j,k,temp;

   printf("Enter ten numbers\n");

    for(k=0;k<10;k++)

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

   printf("Sorted array is:\n");

   for(i=0;i<9;i++)

   {

      for(j=i+1;j<10;j++)

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

      {

      temp=a[i];

       a[i]=a[j];

       a[j]=temp;

      }

   }

   for(i=0;i<10;i++)

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

    return 0;

}
```

7. Write a program to find second largest in an array.Take array values from the user.

```c
#include<stdio.h>

int main()

{
```

```c
   int a[10];

   int i,j,k,temp;

   printf("Enter ten numbers\n");

    for(k=0;k<10;k++)

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

   for(i=0;i<9;i++)

   {

      for(j=i+1;j<10;j++)

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

      {

      temp=a[i];

       a[i]=a[j];

       a[j]=temp;

       }

   }

   printf("Second largest value is : %d ",a[1]);

    return 0;

}
```

8. Write a program to find the second smallest number in an array.Take array values from the user.

```c
#include<stdio.h>

int main()

{

   int a[10];

   int i,j,k,temp;

   printf("Enter ten numbers\n");

    for(k=0;k<10;k++)

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

   printf("Second smallest number is:\n");

   for(i=0;i<9;i++)
```

```c
    {
        for(j=i+1;j<10;j++)

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

            {

            temp=a[i];

            a[i]=a[j];

            a[j]=temp;

            }

    }

    printf("%d ",a[1]);

     return 0;

}
```

9.Write a program in C to read n number of values in an array and display it in reverse order. Take array values from the user.

```c
 #include<stdio.h>

int main()

{

    int a[10];

    int i,j,k,temp;

    printf("Enter ten numbers\n");

     for(k=0;k<10;k++)

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

    printf("Array in reverse order is:\n");

    for(i=0,j=9;i<=j;j--,i++)

    {

        temp=a[i];

        a[i]=a[j];

        a[j]=temp;

    }
```

```c
    for(i=0;i<10;i++)
    printf("%d ",a[i]);
    return 0;
}
```

10. Write a program in C to copy the elements of one array into another array.Take array values from the user

```c
#include<stdio.h>
int main()
{
    int a[10];
    int i,k;
    printf("Enter ten numbers\n");
    for(k=0;k<10;k++)
    scanf("%d",&a[k]);
    printf("Copied array is:\n");
    for(i=0;i<10;i++)
    printf("%d ",a[i]);
    return 0;
}
```