| Programs to Arrange the elements of array(list) in ascending order. | | |
| --- | --- | --- |
| Selection Sort | Bubble sort | Insertion Sort |

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t,min;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

for(i=0;i<n-1;i++)
    min=i;
    for(j=i+1;j<n;j++){
        if(j=i+1;j<=n-1;j++)
            if(a[min]>a[j])
                min=j;
        t=a[i];
        a[i]=a[min];
        a[min]=t;

    }

    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

  return 0;
}
```

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

 for(i=0;i<n-1;i++)
     for(j=0;j<n-i-1;j++)
        if(a[j]>a[j+1]){
           t=a[j];
           a[j]=a[j+1];
           a[j+1]=t;
        }
    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
```

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

  for(i=1;i<=n-1;i++)
  {
     t=a[i];
     j=i-1;

     while(a[j]>t&&(j>=0))
     {
        a[j+1]=a[j];
        j=j-1;
     }

     a[j+1]=t;
  }

    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
```

| Programs to Arrange the elements of array(list) in ascending order using pointers | | |
|---|---|---|
| Selection Sort | Bubble sort | Insertion Sort |

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t,*p;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);
 p=a;
for(i=0;i<n-1;i++)
    min=i;
     for(j=i+1;j<n;j++){
        if(j=i+1;j<=n-1;j++)
            if(*(p+min)>*(p+j))
                min=j;
        t=*(p+i);
        *(p+i)=*(p+min);
        *(p+min)=t;
      }

    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

 return 0;
}
```

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t,*p;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);
 p=a;
 for(i=1;i<n-1;i++)
     for(j=0;j<n-i;j++)
        if(*(p+j)]>*(p+j+1)){
            t=*(p+j);
            *(p+j)=*(p+j+1);
            *(p+j+1)=t;
        }
    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
```

```c
#include <stdio.h>
int main()
{
    int a[100],n,i,j,t,*p;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);
 p=a;
  for(i=1;i<=n-1;i++)
  {
    t=*(p+i);
    j=i-1;

    while(*(p+j)>t&&(j>=0))
    {
        *(p+j+1)=*(p+j);
        j=j-1;
    }
     *(p+j+1)=t;
  }

    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
```

| Programs to Arrange the elements of array(list) in ascending order using functions | | |
|---|---|---|
| Selection Sort | Bubble sort | Insertion Sort |

```c
#include <stdio.h>
void selection(int a[],int n);
int main()
{
    int a[100],n,i;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

 selection(a,n);

 printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
void selection(int a[],int n){
    int i,j,t;
for(i=0;i<n-1;i++)
        min=i;
        for(j=i+1;j<n;j++){
            if(j=i+1;j<=n-1;j++)
                if(a[min]>a[j])
                    min=j;
            t=a[i];
            a[i]=a[min];
            a[min]=t;


        }

}
```

```c
#include <stdio.h>
void bubble(int a[],int n);
int main()
{
    int a[100],n,i;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

 bubble(a,n);

    printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

    return 0;
}
void bubble(int a[],int n){
    int i,j,t;
for(i=1;i<n-1;i++)
        for(j=0;j<n-i;j++)
            if(a[j]>a[j+1]){
                t=a[j];
                a[j]=a[j+1];
                a[j+1]=t;
            }

}
```

```c
#include <stdio.h>
void insertion (int a[],int n);
int main()
{
    int a[100],n,i;
    printf("Enter Array size\n");
    scanf("%d",&n);

    printf("Enter %d elements of Array\n",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);

    printf("Entered Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);

insertion(a,n);

 printf("\nSorted Array elements are\n");
    for(i=0;i<n;i++)
        printf("%6d",a[i]);
    return 0;
}
void insertion (int a[],int n){
    int i,j,t;
    for(i=1;i<=n-1;i++)
    {
        t=a[i];
        j=i-1;
        while(a[j]>t&&(j>=0))
        {
            a[j+1]=a[j];
            j=j-1;
        }
        a[j+1]=t;
    }
}
```