Seacrhing and sorting:

1.General approach

#include <stdio.h>

int main()

{

int a[100],n,i,j,temp;

scanf("%d",&n);

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

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

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

{

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

{

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

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

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

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

return 0;

}

Adding 2 no.x without arithmetic operations

#include <stdio.h>

int main()

{

int a=10,b=20;

while(b!=0)

{

a++;

b--;

}

printf("%d",a);

return 0;

}

Swapping 2 no.s without using temporary variable

#include <stdio.h>

int main()

{

int a=10,b=20;

printf("\n a=%d and b=%d",a,b);

a=a+b; a=a\*b; a=a^b;

b=a-b; b=a/b; b=a^b;

a=a-b; a=a/b; b=a^b

printf("\n a=%d and b=%d",a,b);

return 0;

}

Bubble sort:

#include <stdio.h>

int main()

{

int a[100],n,i,j,temp;

scanf("%d",&n);

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

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

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

{

for(j=0;j<n-i;j++)

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

}

}

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

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

return 0;

}

Insertion sort:

#include <stdio.h>

int main()

{

int a[100],n,i,j,temp;

scanf("%d",&n);

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

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

for(i=1;i<n;i++)

{

for(j=0;j<n-i;j++)

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

}

}

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

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

return 0;

}

Linear search:

i/p:5 o/p:100

24 56 78 100 2 4

#include <stdio.h> :1947

int main() -1

{

int a[100],n,i,flag=0,key;

scanf("%d",&n);

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

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

scanf("%d",&key);

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

{

if (a[i]==key)

{

printf("%d",i+1);

flag=1;

}

}

if(flag==0)

printf("-1");

return 0;

}

Binary search:

#include <stdio.h>

int main()

{

int a[100],n,i,flag=0,key,low,high,mid;

scanf("%d",&n);

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

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

scanf("%d",&key);

low=0;

high=n-1;

mid=(low+high)/2;

while(low<=high)

{

if(key==a[mid])

{

printf("%d is found at %d position",key,mid+1);

flag=1;

break;

}

else if(key>a[mid])

low=mid+1;

else

high=mid-1;

mid=(low+high)/2;

}

if(flag==0)

printf("%d is not found",key);

return 0;

}