Sheet#7

1) #include<stdio.h>

int searchsorted(const \*a , int si){

if(a[0]<=a[1])

{

for(int i=0; i<si-1 ;i++)

{

if(\*(a+i)>\*(a+i+1))

return 0;

}

return 1;

}

else if(a[0]>=a[1])

{

for(int i=0; i<si-1 ;i++)

{

if(\*(a+i)<\*(a+i+1))

return 0;

}

return 1;

}

}

int main()

{

const int size;

int array[100],z;

printf("enter the size of array: ");

scanf("%d",&size);

for(int i=0; i<size ;i++)

{

printf("enter number#%d: ",i+1);

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

}

z=searchsorted(array,size);

if(z)

{

printf("the array is sorted");

}

else

printf("the array is not sorted");

return 0;

}

2) #include<stdio.h>

int swap(int \*a1 ,int \*a2)

{

int temp=\*a1;

\*a1=\*a2;

\*a2=temp;

}

int bubblesort(const \*a , int si)

{

for(int i=1; i<si ;i++)

{

for(int j=0; j<si-i ;j++)

{

if(\*(a+j)>\*(a+j+1))

swap(&a[j], &a[j+1]);

}

}

}

int main()

{

const int size;

int array[100];

printf("enter the size of array: ");

scanf("%d",&size);

for(int i=0; i<size ;i++)

{

printf("enter number#%d: ",i+1);

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

}

bubblesort(array,size);

for(int i=0; i<size ;i++)

{

printf("the number#%d become %d\n",i+1,array[i]);

3) #include<stdio.h>

int linearsearch(const \*a , int key , int start , int end)

{

int middle=(start+end)/2 ;

if(start>end)

return -1;

if(key==a[middle])

return middle;

if(key<a[middle])

return linearsearch(a,key,start,middle-1);

if(key>a[middle])

return linearsearch(a,key,middle+1,end);

}

int main()

{

const int size;

int array[100],key;

printf("enter the size of array: ");

scanf("%d",&size);

printf("enter the sort numbers: \n");

for(int i=0; i<size ;i++)

{

printf("enter number#%d: ",i+1);

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

}

printf("enter the keysearch: ");

scanf("%d",&key);

if(linearsearch(array,key,0,size-1) ==-1 )

printf("the keysearch notfound");

else

printf("the index of keysrearch in array is %d",linearsearch(array,key,0,size-1)+1);

}

4) #include<stdio.h>

float mean(int arr[],int size)

{

int sum=0;

for(int i=0; i<size ;i++)

{

sum+=arr[i];

}

return sum/(float)size;

}

int mode(int arr[],int size)

{

int a=0,b=0,c;

for(int i=0; i<size ;i++)

{

for(int j=i; j<size ;j++)

{

if(arr[j]==arr[i])

a++;

}

if(a>b)

{

b=a;

c=arr[i];

}

a=0;

}

return c;

}

int median(int arr[],int start, int end)

{

int middle=(start+end)/2;

return arr[middle];

}

int main()

{

const int size;

int array[100];

printf("enter the size of array: ");

scanf("%d",&size);

for(int i=0; i<size ;i++)

{

printf("enter number#%d: ",i+1);

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

}

printf("the mean = %.3f\n",mean(array,size));

printf("the mode = %d\n",mode(array,size));

printf("the median = %d",median(array,0,size-1));

}

5) #include<stdio.h>

#include<string.h>

int replace(char \*arr,int lenght)

{

int a=0;

for(int i=0; i<lenght; i++)

{

if(\*(arr+i)== ' ')

{

\*(arr+i)='-';

a++;

}

}

return a;

}

int main()

{

const int size;

char array[100],key;

printf("enter the string: \n");

gets(array);

printf("the number of spaces in array is %d\n",replace(array,strlen(array)));

printf("the string after replace ");

puts(array);

}