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***Batch: F2***

***Week 2***

***Question : 1***

#include<stdio.h>

int main()

{

int n,i,fin,count = 0;

printf("Enter the length of the array :");

scanf("%d",&n);

int number[n];

printf("Enter the elements :");

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

{

scanf("\n%d",&number[i]);

}

printf("Enter the number you want to search :");

scanf("%d",&fin);

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

{

if (number[i] == fin)

{

count+=1;

}

}

printf("%d comes %d times",fin,count);

}

***Question :2***

#include<stdio.h>

int main()

{

int n,key,mid,count = 0;

printf("Enter the number of integer :");

scanf("%d",&n);

int num[n];

printf("Enter the digits :");

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

{

fflush(stdin);

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

}

printf("Enter the number you want to search :");

scanf("%d",&key);

i = 0;

j = n-1;

while (i<=j)

{

mid = (i+j)/2;

if (num[mid] == key)

{

count += 1

printf(" Number Found ");

}

else if(num[mid] > key)

{

i = mid+1;

}

else

{

j = mid-1;

}

}

if (count<1)

{

printf(“ Number Found ");

}

}

***Question 3:***

#include<stdio.h>

int main()

{

char ch[20][30],che;

int i,j = 0;

printf("Enter the words :")

for(i=0;i<20;i++)

{

gets(ch[i]);

}

printf("Enter the word you want to search :");

gets(che);

for(i = 0;i<20;i++)

{

if (strcmp(ch[i],che) == 0)

{

printf("Word FOUND ");

j+=1;

break;

}

}

if (j <0)

{

printf("Word NOT FOUND ");

}

}

***Question 4:***

#include<stdio.h>

int main()

{

int i,ini,last,mid,flag=0;

char c[10],n;

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

{

fflush(stdin);

scanf("%c",&c[i]);

}

printf("Enter Character to be searched in Alphabetical Order");

fflush(stdin);

scanf("%c",&n);

ini=0;

last=9;

mid=(ini+last)/2;

while(ini<=last)

{

if(c[mid]==n)

{

flag=1;

printf("Found");

break;

}

else

{

if(strcmp(n,c[mid])>0)

{

ini=mid+1;

mid=(ini+last)/2;

}

else

{

last=mid-1;

mid=(ini+last)/2;

}

}

}

if(flag==1)

{

printf("FOUND");

}

else{

printf("NOT FOUND");

}

return 0;

}

***Question 5:***

#include&lt;stdio.h&gt;

#include&lt;stdlib.h&gt;

void swap(int \*a,int \*b)

{

int t;

t=\*a;

\*a=\*b;

\*b=t;

}

int main()

{

void func1(int \*[],int);

void func3(int \*[],int);

void func2(int \*[],int);

int n;

printf(&quot;Enter the number of elements of the array\n&quot;);

scanf(&quot;%d&quot;,&amp;n);

int arr[n];

int k,i;

for(i=0;i&lt;n;i++)

{

scanf(&quot;%d&quot;,&amp;arr[i]);

}

printf(&quot;Type your choice\n1: Selection\n2: Bubble\n3: Insertion\n&quot;);

scanf(&quot;%d&quot;,&amp;k);

switch(k)

{

case 1:func1(&amp;arr,n);break;

case 2:func2(&amp;arr,n);break;

case 3:func3(&amp;arr,n);break;

}

return 0;

}

void func1(int \*arr[],int n)

{

printf(&quot;Program for selection sort\n&quot;);

int i,j;

for(i=0;i&lt;n-1;i++)

{

for(j=i+1;j&lt;n;j++)

{

if(arr[i]&gt;arr[j])

swap(&amp;arr[i],&amp;arr[j]);

}

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}

void func2(int \*arr[],int n)

{

printf(&quot;Program for Bubble sort\n&quot;);

int i,j;

for(i=0;i&lt;n-1;i++)

{

for(j=0;j&lt;n-i-1;j++)

{

if(arr[j]&gt;arr[j+1])

swap(&amp;arr[j+1],&amp;arr[j]);

}

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}

void func3(int \*arr[],int n)

{

printf(&quot;Program for Insertion sort\n&quot;);

int i,j,temp;

for(i=1;i&lt;n;i++)

{

j=i-1;temp=arr[i];

while(j&gt;=0&amp;&amp;temp&lt;arr[j])

{

arr[j+1]=arr[j];

j--;

}

arr[j+1]=temp;

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}

***Question 6:***

#include&lt;stdio.h&gt;

#include&lt;stdlib.h&gt;

void swap(int \*a,int \*b)

{

int t;

t=\*a;

\*a=\*b;

\*b=t;

}

int main()

{

void func1(int \*[],int);

void func3(int \*[],int);

void func2(int \*[],int);

int n;

printf(&quot;Enter the number of elements of the array\n&quot;);

scanf(&quot;%d&quot;,&amp;n);

int arr[n];

int k,i;

for(i=0;i&lt;n;i++)

{

scanf(&quot;%d&quot;,&amp;arr[i]);

}

printf(&quot;Type your choice\n1: Selection\n2: Bubble\n3: Insertion\n&quot;);

scanf(&quot;%d&quot;,&amp;k);

switch(k)

{

case 1:func1(&amp;arr,n);break;

case 2:func2(&amp;arr,n);break;

case 3:func3(&amp;arr,n);break;

}

return 0;

}

void func1(int \*arr[],int n)

{

printf(&quot;Program for selection sort\n&quot;);

int i,j;

for(i=0;i&lt;n-1;i++)

{

for(j=i+1;j&lt;n;j++)

{

if(arr[i]&gt;arr[j])

swap(&amp;arr[i],&amp;arr[j]);

}

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}

void func2(int \*arr[],int n)

{

printf(&quot;Program for Bubble sort\n&quot;);

int i,j;

for(i=0;i&lt;n-1;i++)

{

for(j=0;j&lt;n-i-1;j++)

{

if(arr[j]&gt;arr[j+1])

swap(&amp;arr[j+1],&amp;arr[j]);

}

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}

void func3(int \*arr[],int n)

{

printf(&quot;Program for Insertion sort\n&quot;);

int i,j,temp;

for(i=1;i&lt;n;i++)

{

j=i-1;temp=arr[i];

while(j&gt;=0&amp;&amp;temp&lt;arr[j])

{

arr[j+1]=arr[j];

j--;

}

arr[j+1]=temp;

}

printf(&quot;The sorted array is :\n&quot;);

for(i=0;i&lt;n;i++)

printf(&quot;% d &quot;,arr[i]);

}