**/\* Program No. :**

**Aim : WAP to search an element in an array of integer, character or floating point number through a single function using a function template with multiple arguments.**

**\*/**

#include<iostream.h>

#include<conio.h>

#define max 5

template <class typea,class typeb>

typeb search(typea \*array,typea value,typeb size)

{

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

{

if(array[i]==value)

return(i+1);

}

return(0);

}

void main()

{

int narr[max],n,i,choice1,size,pos;

float farr[max],f;

char carr[max],c,choice2;

do

{

clrscr();

cout<<"\n\n\t\t\t\tMENU"

<<"\n\n\t1. Search Integer Array"

<<"\n\t2. Search Float Array"

<<"\n\t3. Search Character Array"

<<"\n\t4. Exit";

cout<<"\n\n\tEnter your choice (1-4) : ";

cin>>choice1;

switch(choice1)

{

case 1:cout<<"\n\n\t\tEnter the size of array (<5) : ";

cin>>size;

if(size>=max)

{

cout<<"\n\n\t\tSize of array exceeds the maximum size"

<<"\n\t\tPress any key to continue";

choice2='y';

}

else

{

cout<<"\n\n\t\tEnter the elements of the array\n";

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

{

cout<<"\t\t\t\t: ";

cin>>narr[i];

}

cout<<"\n\n\t\tEnter the element to be searched : ";

cin>>n;

pos=search(narr,n,size);

if(pos==0)

cout<<"\n\n\tThe element "<<n<<" doesn't exist in the array";

else

cout<<"\n\n\tThe element "<<n

<<" is present at the position "<<pos<<" in the array";

}

cout<<"\n\n\t\tWant to continue (y/n) : ";

cin>>choice2;

break;

case 2:cout<<"\n\n\t\tEnter the size of array (<5) : ";

cin>>size;

if(size>=max)

{

cout<<"\n\n\t\tSize of array exceeds the maximum size"

<<"\n\t\tPress any key to continue";

choice2='y';

}

else

{

cout<<"\n\n\t\tEnter the elements of the array\n";

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

{

cout<<"\t\t\t\t: ";

cin>>farr[i];

}

cout<<"\n\n\t\tEnter the element to be searched : ";

cin>>f;

pos=search(farr,f,size);

if(pos==0)

cout<<"\n\n\tThe element "<<f<<" doesn't exist in the array";

else

cout<<"\n\n\tThe element "<<f

<<" is present at the position "<<pos<<" in the array";

}

cout<<"\n\n\t\tWant to continue (y/n) : ";

cin>>choice2;

break;

case 3:cout<<"\n\n\t\tEnter the size of array (<5) : ";

cin>>size;

if(size>=max)

{

cout<<"\n\n\t\tSize of array exceeds the maximum size"

<<"\n\t\tPress any key to continue";

choice2='y';

}

else

{

cout<<"\n\n\t\tEnter the elements of the array\n";

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

{

cout<<"\t\t\t\t: ";

cin>>carr[i];

}

cout<<"\n\n\t\tEnter the element to be searched : ";

cin>>c;

pos=search(carr,c,size);

if(pos==0)

cout<<"\n\n\tThe element "<<c<<" doesn't exist in the array";

else

cout<<"\n\n\tThe element "<<c

<<" is present at the position "<<pos<<" in the array";

}

cout<<"\n\n\t\tWant to continue (y/n) : ";

cin>>choice2;

break;

case 4:break;

default:cout<<"\n\n\t\tIncorrect Choice"

<<"\n\t\tPress any key to continue";

choice2='y';

}

}while(choice2=='y'||choice2=='Y');

getch();

}

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