Fundamentals of programming

Lab Manual 8

lab task

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ME-15 Section A

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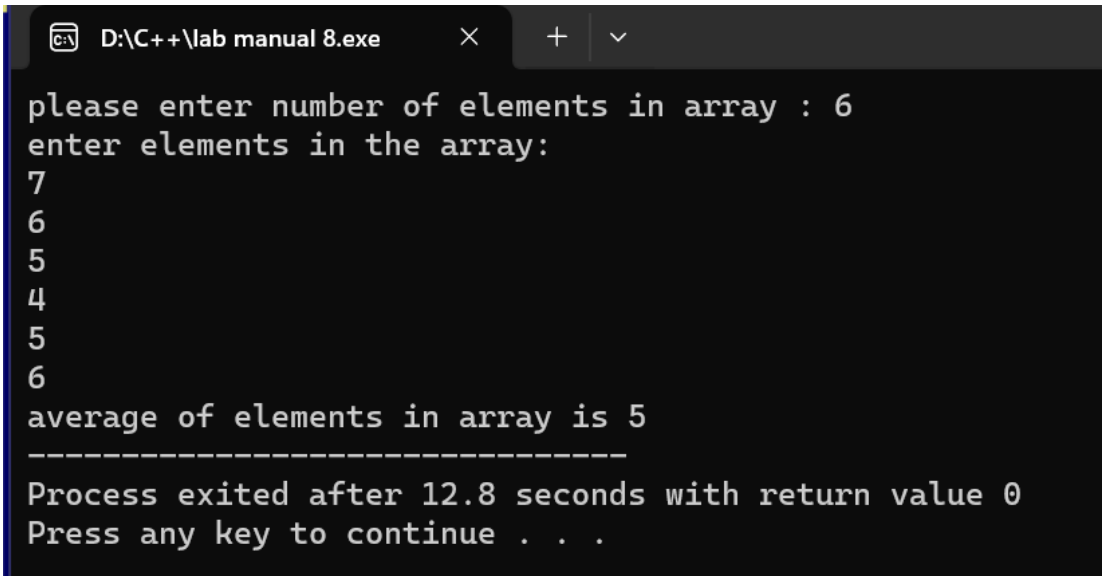
1. Write a C++ program to calculate average of numbers of array.

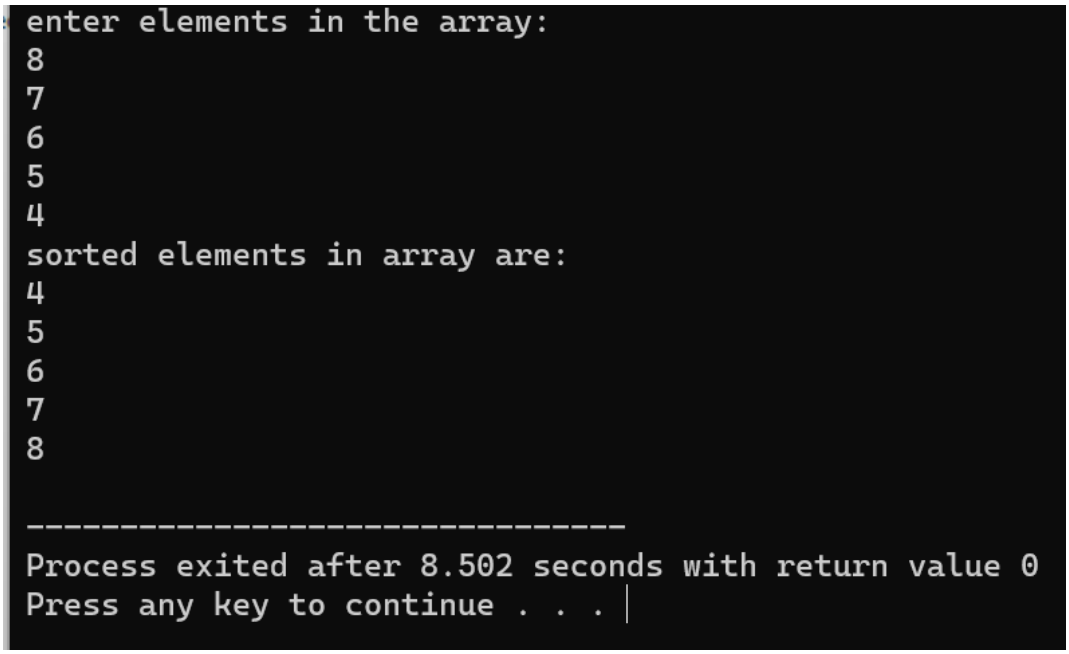
```
int main(){
        int v;
        //entering number of elemenets in array
        cout<<"please enter number of elements in array : ";
        cin>>v;
        int num[v];
        int i,j,sum;
        float avg;
        sum=0;
        //entering elemenets in array
        cout<<"enter elements in the array: "<<endl;
        for (i=0;i<v;i++){
                cin>>num[i] ;
        }
        for(j=0;j<v;j++){
                sum+=num[j];
        }
        //calculating everage
        avg=sum/v;
        cout<<"average of elements in array is "<<avg;
}
```



2. Implement Bubble sort on an array of 5 integers.

```
int main(){
	int num[5];
	int i,j,k,z,temp;
	// entering elemenets in array
	cout<<"enter elements in the array: "<<endl;
	for (i=0;i<5;i++){
		cin>>num[i];
	}
	//using nested loop to perform bubble sort
	for (j=0;j<5;j++){
		for(k=0;k<4;k++){
			if(num[k]>num[k+1]){
				temp=num[k+1];
				num[k+1]=num[k];
				num[k]=temp;
```

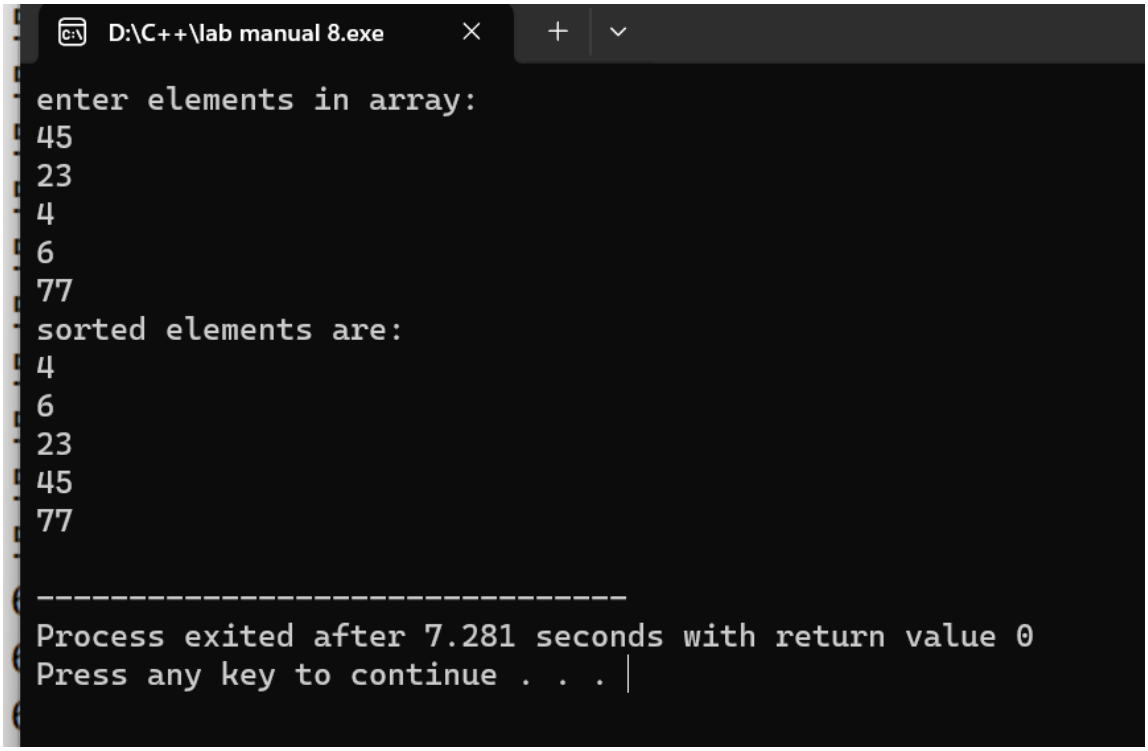
```
                }
            }
        }
        //outputting sorted elements
        cout<<"sorted elements in array are: "<<endl;
        for (z=0;z<5;z++){
            cout<<num[z]<<endl;
}
```



3. Implement Selection Sort on an array of 5 integers.

```
int main(){
int num[5],min;
//entering elements in array
cout<<"enter elements in array: "<<endl;
for(int i=0;i<5;i++){
        cin>>num[i];
```

```
}
//using nested loops to perform insertion sort
for (int j=0;j<5;j++){
	min=num[j];
	for(int k=j;k<5;k++)
	{
		if (min>num[k]){
			min=num[k];
			num[k]=num[j];
			num[j]=min;
		}
	}
}
//outputting sorted elements
cout<<"sorted elements are: "<<endl;
for(int z=0;z<5;z++)
cout<<num[z]<<endl;
}
```


D:\C++\lab manual 8.exe
enter elements in array:
45
23
4
6
77
sorted elements are:
4
6
23
45
77

Process exited after 7.281 seconds with return value 0
Press any key to continue . . .