Lecture 11

Swapping, Pass Array to Function

Swapping

```
int main(){

   int a = 9; int b = 7;
   int temp = a;
   a = b;
   b = temp;
   cout<<”a is”<<a<<”b is”<<b<<endl;
      return 0;
}
```

Bubble Sort

```
int main(){
    int arr[5]={3,2,1,4,5};
        for(int i=0; i<5; ++i){
        for(int j=0;j<4; ++j){
            if(arr[j]>arr[j+1]){
                        int a = arr[j];
                    arr[j] = arr[j+1];
                    arr[j+1] = a;
            }
        }
  }
  for(int i =0; i<5; ++i) cout<<arr[i]<<” ”;
    return 0;
}
```

Finding number of odd numbers

```
#include <iostream>
using namespace std
int countEvenNumber(int array[], int num){
   int count = 0;
   for(int i=0; i<10; ++i){
    if(array[i]%2 == 0)count = count+1;
  }
  return count;
}...
```

Finding number of odd numbers

```
...
int main(){
      int sizeOfArray = 10;
      int myarray[10]={1,2,3,4,5,6,7,8,9,10};
      int a=countevenNumber(myarray,10);
      cout<<”Number of odds: ”<<a<<endl;
      return 0;
}
```

Returning arrays(1)

```
#include <iostream>
#include <cmath>
using namespace std;

void squaremyArray(int array[], int num){
  for(int i=0; i<10; ++i){
    array[i] = array[i]*array[i];
  }
}
...
```

Returning arrays(1)

```
...
int main(){
  int array[10] = {1,2,3,4,5,6,7,8,9,10};
  squaremyArray(array,10);

  for(int i=0; i<10; ++i){
    cout<<array[i]<<endl;
  }
  return 0;
}
```

Returning arrays(2)

```
void squareMyArray(int inputArray[],int inputSize,
                   int outputArray[],int outputSize)
{

  for(int i=0; i<10; ++i){
    outputArray[i] = inputArray[i]*inputArray[i];
  }
}
...
```

Returning arrays(2)

```
...
int main(){
  int inputSize = 10;int outputSize = 10;
  int inputArray[inputSize] = {1,2,3,4,5,6,7,8,9,10};
  int outputArray[outputSize];

  squareMyArray(inputArray,inputSize,outputArray,outputSize);

  for(int i=0; i<outputSize; ++i){
    cout<<outputArray[i]<<endl;
  }
  return 0;
}
```

Sorting using array

```
void bubbleSort(int myArray[], int lenofArray){

    for(int a = 0; a<lenofArray;++a){
        for(int i= 0; i<lenofArray - 1; ++i){
            if(myArray[i]>myArray[i+1]){
                int x = myArray[i];
                myArray[i] = myArray[i+1];
                myArray[i+1] = x;
               }
         }
    }
}
```

Sorting using array

```
int main(){

    int lenofArray = 5;
    int myArray[5] = {90,80,70,60,50};
    bubbleSort(myArray,lenofArray);
    for(int i=0; i<5; ++i)cout<<myArray[i]<<" ";

    return 0;
}
```

2d array

```
void printSquare(int inputArray[][5], int outputArray[][5]){

  for(int i=0;i<2; ++i){
    for(int j=0;j<5;++j){
      outputArray[i][j] = inputArray[i][j]*inputArray[i][j];
    }
    cout<<endl;
  }
}
```

2d array

```
int main(){
  int inputArray[2][5]={
                         {1,2,3,4,5},
                         {5,6,7,8,9}
                        };
  int outputArray[2][5];
  printSquare(inputArray,outputArray);

  for(int i =0;i<2;++i){
    for(int j=0; j<5;++j){
      cout<<outputArray[i][j]<<" ";
    } cout<<endl;
  }
  return 0;
}
```