Chad Bonnett

Lab052319

main.cpp | main.cpp | main.cpp | Array.h

Source | History

```
49
50  void markSrt(int a[],int n){
51      for(int pos=0;pos<n-1;pos++){
52          for(int i=pos+1;i<n;i++){
53              if(a[pos]>a[i]){
54                  int temp=a[i];
55                  a[i]=a[pos];
56                  a[pos]=temp;
57              }
58          }
59      }
60  }
61
62  void prntAry(int array[],int n,int perLine){
63      cout<<endl;
64      for(int i=0;i<n;i++){
65          cout<<array[i]<<" ";//2 digit random number
66          if(i%perLine==(perLine-1))cout<<endl;
67      }
68      cout<<endl;
69  }
70
71  void fillAry(int array[],int n){
72      for(int i=0;i<n;i++){
73          array[i]=rand()%90+10;//2 digit random number
74      }
75  }
```

fillAry

MarkSort (Build, Run) | MarkSort (Run) | MarkSortUsingIndex (Build, Run) | MarkSortUsingIndex (Run)

```
82 83 14 89 32 77 35 62 29 49
93 23 22 60 79 58 84 30 19 73


12 13 13 13 13 14 14 14 14 15
17 19 19 20 21 21 22 22 23 23
24 24 24 25 25 26 27 29 29 30
31 32 32 33 35 35 36 36 37 38
38 39 40 42 45 46 46 47 48 49
49 51 52 53 56 58 59 59 60 61
61 62 62 62 62 65 66 67 67 71
71 72 73 73 77 77 78 79 81 82
82 83 83 84 84 84 84 84 85 85
89 89 89 93 93 94 95 95 97 97


RUN FINISHED; exit value 0; real time: 10ms; user: 0ms; system: 0ms
```

Figure 1. Using a single array.

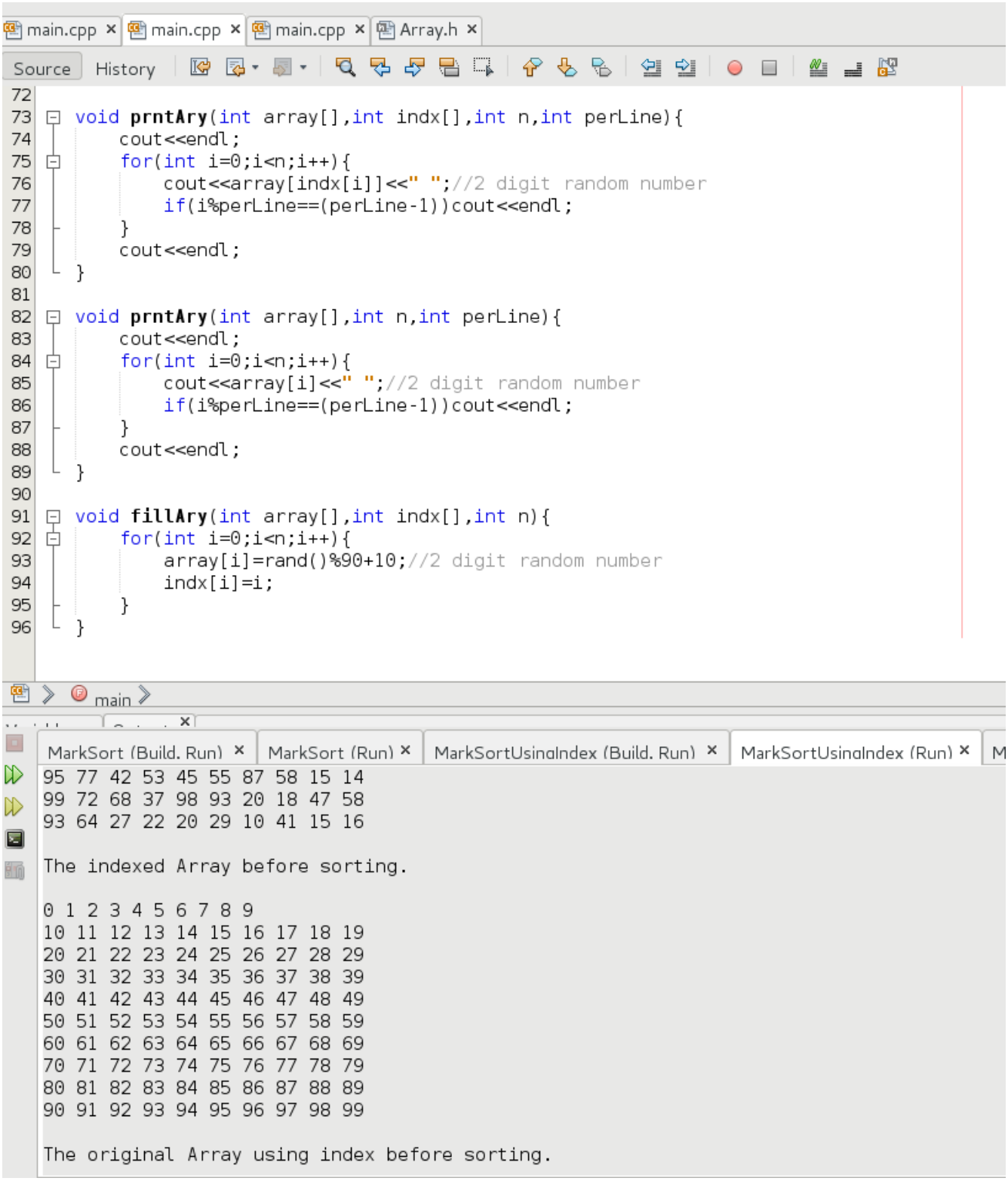

Figure 2. Using another array as an index.

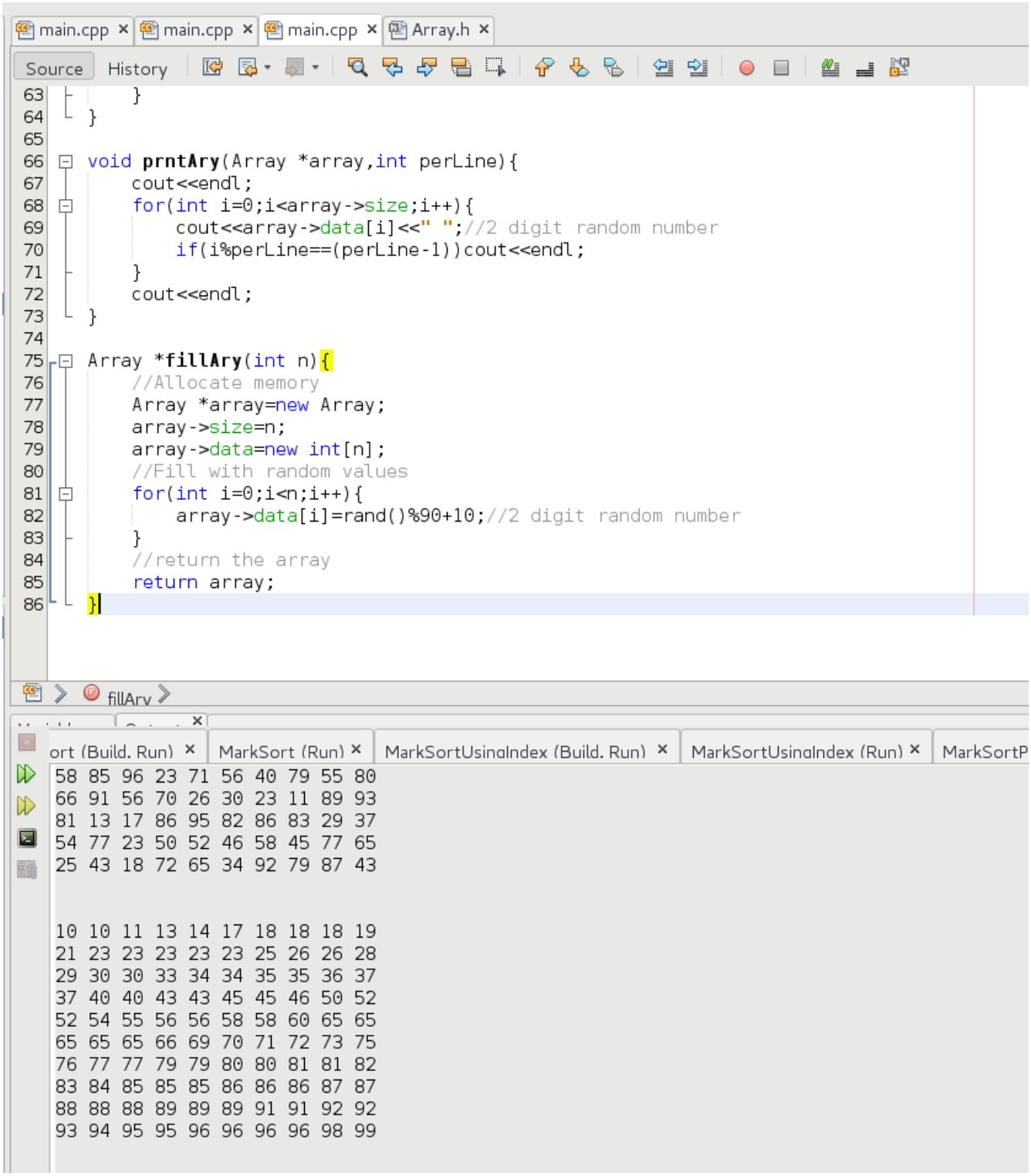

Figure 3. Using a structure and pointer to implement an array.

Lab052619

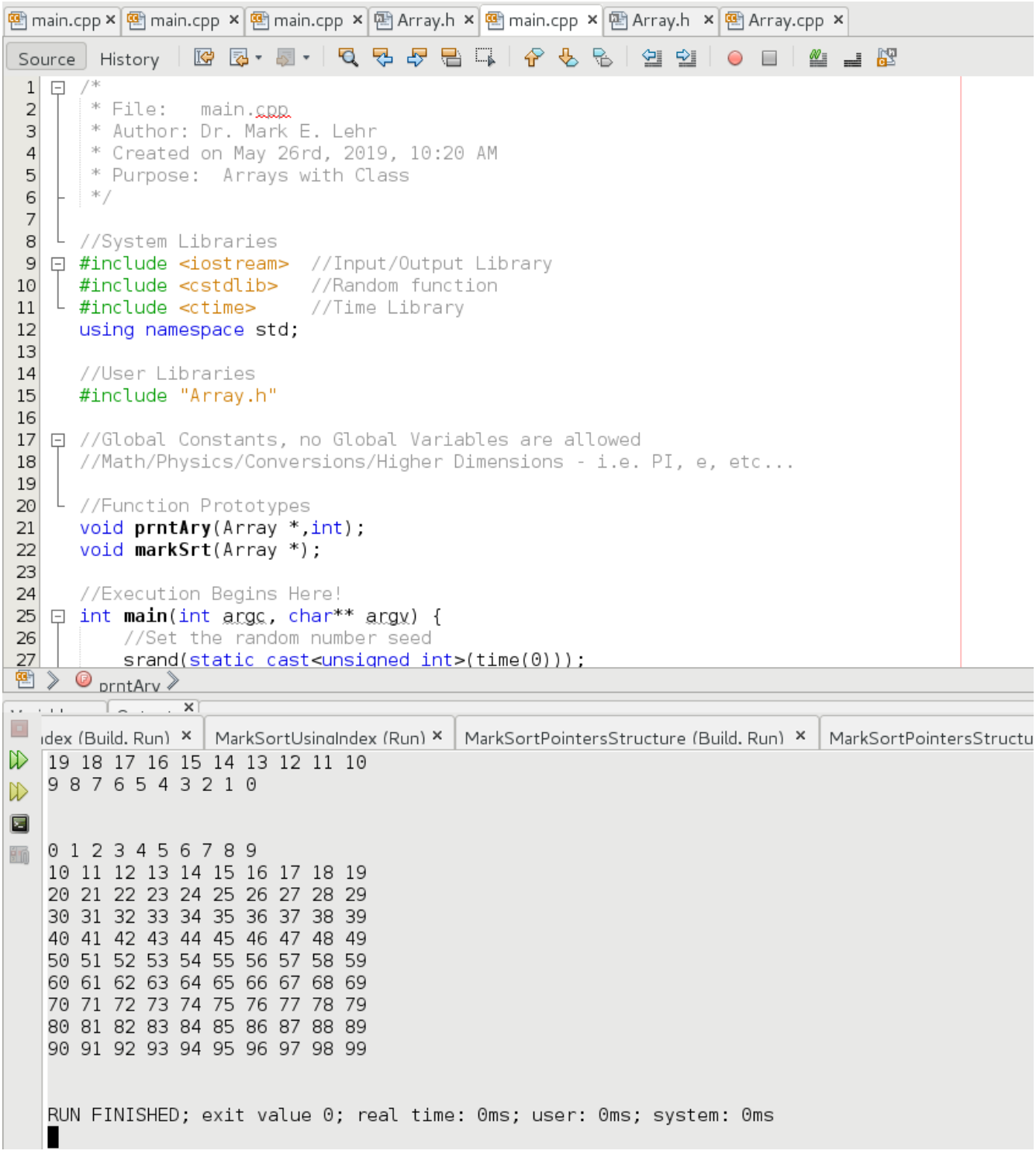

Figure 4. Using a class to implement an array.

Lab052319 and Lab052619 illustrates a sorting algorithm using different implementations of an array data. Code 1 uses the basic single array datatype. Code 2 uses 2 single arrays where the second array is used as an index array. Only the index array is updated to sort the data in the first array. Code 3 uses a structure database and pointer to implement an array. The structure contains 2 data types, the size and array data. Size is implemented as an int while the array day is implemented as a basic single array of ints. Code 4 uses a class to implement an array. The class contains the data type and functions such as get Data and setData. Using classes illustrates object-oriented programming, wherein here the array is now an object with its own data and functions.