

Home Work # 3

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Section: BCS-4B

Homework No: 3

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Question 1:

C: > Users > ATECH-LAB > Downloads > Main.cpp > ArrayList

```
1  #include<iostream>
2  using namespace std;
3  class ArrayList{
4      private:
5          int size;
6          int length;
7          int *array;
8      public:
9          ArrayList(){
10             size = 10;
11             length = 0;
12             array = new int [size];
13         }
14         ~ArrayList(){
15             delete[] array;
16         }
17         void printArray(){
18             int *ptr = array;
19             for(int x = 0; x < size; x++){
20                 cout<<*ptr++ <<"\t";
21             }
```

```
21         }
22     }
23     void insert(){
24         int *ptr;
25         ptr = array;
26         // if(length == 0){
27         //     cout<<"Array is empty";
28         // }
29         // else{
30         //     cout<<"Array is not full"<<endl;
31         // }
32         for(int i = 1; i <= size; i++){
33             cout<<"Enter the value:";
34             cin>>*ptr++;
35             length=length+1;
36         }
37         // cout<<*ptr;
38     }
39 }
40 // cout<<*ptr;
41 }
```

```

41     }
42     void print2(){
43         int *vbr = array;
44         cout<<*vbr;
45     }
46     void lengthcal(){
47         int *ptr;
48         ptr = array;
49         // int length = 0;
50         while(*ptr!='\0'){
51             length=length+1;
52             cout<<length;
53         }
54         // for(int i = 1; i != '\0'; i++){
55         //     length+=1;
56         // }
57         cout<<"ArrayLength is: "<<length;
58         cout<<endl<<"FunctionEnd";
59     }
60     int search(int val){
61         int *ptr;
62         ptr = array;

```

```

62         ptr = array;
63         for(int i = 1; i < size; i++){
64             if(*ptr == val){
65                 // return val;
66                 cout<<"Element found";
67                 cout<<endl<<"The value you are searching is: "<<*ptr;
68                 break;
69             }
70             else{
71                 ptr++;
72             }
73             // cout<<"Key not found";
74         }
75     }

```

```

76     void insertspecific(int val, int pos){
77         int *ptr;
78         ptr = array;
79         for(int i = 1; i <= size; i++){
80             if(pos == i){
81                 *ptr = val;
82                 // cout<<"Position if out of size";
83             }
84             else{
85                 ptr = ptr+1;
86             }
87         }
88         // cout<<"Position if out of size";
89     }
90
91 }
92 void deletion(int val){
93     int *ptr;
94     ptr = array;
95     for(int i = 1; i < size; i++){
96         if(*ptr == val){
97             for(int j = i; j<size ; j++){
98                 *ptr = *(ptr+j);
99                 // ptr = ptr+1;

```

```

99         // ptr = ptr+1;
100         //ptr++;
101         //      cout<<"ValveIs: "<<*ptr;
102     }
103 }
104 else{
105     ptr++;
106 }
107 //      cout<<"Value is not present in the array";
108
109
110     }
111 }
112 bool isFull(){
113     int *ptr;
114     ptr = array;
115     for(int i = 1; i <= size; i++){
116         if(*ptr != NULL)
117             ptr=ptr++;
118         else

```

```

118         else
119             return true;
120     }
121 }
122 }
123 bool isEmpty(){
124     if(length == 0){
125         cout<<"Array is empty";
126         return true;
127     }
128 }
129 void Print(){
130     int *ptr;
131     ptr = array;
132     cout<<"The values are: "<<endl;
133     for(int i = 1; i <= size; i++){
134         cout<<*ptr++<<endl;
135     }
136 }
137
138 }
139

```

```

140 };
141 int main(){
142     ArrayList obj;
143     obj.insert();
144     // obj.print2();
145     obj.Print();
146     obj.search(6);
147     // obj.printArray();
148
149     //cout<<endl<<"After deletion is: "<<endl;
150     //obj.Print();
151     if(obj.isEmpty()){
152         //cout<<"Array is empty";
153     }
154
155     if(obj.isFull()){
156         cout<<endl<<"Array is full"<<endl;
157     }
158     // cout<<endl<<obj.Print();
159     // obj.insertspecific(1, 3); //main
160     // obj.Print(); //main
161
162     }
163     // cout<<endl<<obj.Print();
164     // obj.insertspecific(1, 3); //main
165     // obj.Print(); //main
166     //cout<<endl;
167     // obj.deletion(5); //main
168     // obj.Print();
169     //obj.Print();
170     // obj.lengthcal();
171 }
172

```

```
kendl;
```

```
obj.ir
```

```
obj
```

```
obj.de
```

```
obj.Pr
```

C:\Windows\system32\cmd.exe

Enter the value:1

Enter the value:2

Enter the value:3

Enter the value:4

Enter the value:5

Enter the value:6

Enter the value:7

Enter the value:8

Enter the value:9

Enter the value:10

The values are:

1

2

3

4

5

6

7

8

9

10

Element found

The value you are searching is: 6

Array is full

The values are:

1

2

1

4

5

```
8
9
10
endl; Element found
The value you are searching is: 6
Array is full
The values are:
1
obj.in 2
obj 1
4
5
obj.de 6
7
obj.Pr 8
9
10
The values are:
1
2
1
4
```

```
6
7
8
9
10
```

Press any key to continue . . .