

F:\DSA\ASSN 10\circular linked list.cpp - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

circular linked list.cpp

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  struct node
4  {
5      int data;
6      struct node *next;
7  };
8  struct node *head;
9
10 void begininsert ();
11 void lastinsert ();
12 void randominsert();
13 void begin_delete();
14 void last_delete();
15 void random_delete();
16 void display();
17 void search();
18 int main ()
19 {
20     int choice =0;
21     while(choice != 7)
22     {
23         printf("\n*****Main Menu*****\n");
24         printf("\nChoose one option from the following list ...\n");
25         printf("\n===== \n");
26         printf("\n1.Insert in begining\n2.Insert at last\n3.Delete from Beginning\n4.Delete from last\n5.Search for an element\n6.Show\n7.Exit\n");
27         printf("\nEnter your choice?\n");
28         scanf("%d",&choice);
29         switch(choice)
30         {
31             case 1:
32                 begininsert();
33                 break;
34             case 2:
35                 lastinsert();
```

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Line: 1 Col: 1 Sel: 0 Lines: 243 Length: 5598 Insert Done parsing in 1.906 seconds

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Project Classes Debug

circular linked list.cpp

```
34     case 2: |
35         lastinsert();
36         break;
37     case 3:
38         begin_delete();
39         break;
40     case 4:
41         last_delete();
42         break;
43     case 5:
44         search();
45         break;
46     case 6:
47         display();
48         break;
49     case 7:
50         exit(0);
51         break;
52     default:
53         printf("Please enter valid choice..");
54 }
55 }
56 }
57 void begininsert()
58 {
59     struct node *ptr,*temp;
60     int item;
61     ptr = (struct node *)malloc(sizeof(struct node));
62     if(ptr == NULL)
63     {
64         printf("\nOVERFLOW");
65     }
66     else
67     {
68         printf("\nEnter the node data?");
```

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Abort Compilation

Line: 34 Col: 22 Sel: 0 Lines: 243 Length: 5598 Insert Done parsing in 1.906 seconds

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(globals)

Project Classes Debug

circular linked list.cpp

```
67 {
68     printf("\nEnter the node data?");
69     scanf("%d",&item);
70     ptr -> data = item;
71     if(head == NULL)
72     {
73         head = ptr;
74         ptr -> next = head;
75     }
76     else
77     {
78         temp = head;
79         while(temp->next != head)
80             temp = temp->next;
81         ptr->next = head;
82         temp -> next = ptr;
83         head = ptr;
84     }
85     printf("\nnode inserted\n");
86 }
87
88 }
89 void lastinsert()
90 {
91     struct node *ptr,*temp;
92     int item;
93     ptr = (struct node *)malloc(sizeof(struct node));
94     if(ptr == NULL)
95     {
96         printf("\nOVERFLOW\n");
97     }
98     else
99     {
100         printf("\nEnter Data?");
101         scanf("%d",&item);
```

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About Compilation

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(globals)

Project Classes Debug circular linked list.cpp

```
100     printf("\nEnter Data?");
101     scanf("%d",&item);
102     ptr->data = item;
103     if(head == NULL)
104     {
105         head = ptr;
106         ptr -> next = head;
107     }
108     else
109     {
110         temp = head;
111         while(temp -> next != head)
112         {
113             temp = temp -> next;
114         }
115         temp -> next = ptr;
116         ptr -> next = head;
117     }
118     printf("\nnode inserted\n");
119 }
120
121
122
123
124 void begin_delete()
125 {
126     struct node *ptr;
127     if(head == NULL)
128     {
129         printf("\nUNDERFLOW");
130     }
131     else if(head->next == head)
132     {
133         head = NULL;
134         free(head);
135     }
```

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(globals)

Project Classes Debug

circular linked list.cpp

```
133     head = NULL;
134     free(head);
135     printf("\nnode deleted\n");
136 }
137
138 else
139 {
140     ptr = head;
141     while(ptr -> next != head)
142         ptr = ptr -> next;
143     ptr->next = head->next;
144     free(head);
145     head = ptr->next;
146     printf("\nnode deleted\n");
147 }
148 }
149 void last_delete()
150 {
151     struct node *ptr, *preptr;
152     if(head==NULL)
153     {
154         printf("\nUNDERFLOW");
155     }
156     else if (head ->next == head)
157     {
158         head = NULL;
159         free(head);
160         printf("\nnode deleted\n");
161     }
162     else
163     {
164         ptr = head;
165         while(ptr ->next != head)
166         {
167
```

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(globals)

Project Classes Debug

circular linked list.cpp

```
166     while(ptr ->next != head)
167     {
168         preptr=ptr;
169         ptr = ptr->next;
170     }
171     preptr->next = ptr -> next;
172     free(ptr);
173     printf("\nnode deleted\n");
174 }
175 }
176 }
177
178 void search()
179 {
180     struct node *ptr;
181     int item,i=0,flag=1;
182     ptr = head;
183     if(ptr == NULL)
184     {
185         printf("\nEmpty List\n");
186     }
187     else
188     {
189         printf("\nEnter item which you want to search?\n");
190         scanf("%d",&item);
191         if(head ->data == item)
192         {
193             printf("item found at location %d",i+1);
194             flag=0;
195         }
196         else
197         {
198             while (ptr->next != head)
199             {
200                 if(ptr->data == item)
```

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(globals)

Project Classes Debug

circular linked list.cpp

```
199 {
200     if(ptr->data == item)
201     {
202         printf("item found at location %d ",i+1);
203         flag=0;
204         break;
205     }
206     else
207     {
208         flag=1;
209     }
210     i++;
211     ptr = ptr -> next;
212 }
213 }
214 if(flag != 0)
215 {
216     printf("Item not found\n");
217 }
218 }
219 }
220 }
221
222 void display()
223 {
224     struct node *ptr;
225     ptr=head;
226     if(head == NULL)
227     {
228         printf("\nnothing to print");
229     }
230     else
231     {
232         printf("\n printing values ... \n");
233     }
```

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(globals)

Project Classes Debug

circular linked list.cpp

```
209     }
210     i++;
211     ptr = ptr -> next;
212 }
213 }
214 if(flag != 0)
215 {
216     printf("Item not found\n");
217 }
218 }
219 }
220 }
221
222 void display()
223 {
224     struct node *ptr;
225     ptr=head;
226     if(head == NULL)
227     {
228         printf("\nnothing to print");
229     }
230     else
231     {
232         printf("\n printing values ... \n");
233         while(ptr -> next != head)
234         {
235             printf("%d\n", ptr -> data);
236             ptr = ptr -> next;
237         }
238         printf("%d\n", ptr -> data);
239     }
240 }
241 }
242 }
243 }
```

Compiler Resources Compile Log Debug Find Results Close

About Compilation

Line: 34 Col: 22 Sel: 0 Lines: 243 Length: 5598 Insert Done parsing in 1.906 seconds

F:\DSA\ASSN 10\circular linked list.exe

*****Main Menu*****

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

1

Enter the node data?23

node inserted

*****Main Menu*****

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

1

Enter the node data?25

node inserted

*****Main Menu*****

F:\DSA\ASSN 10\circular linked list.exe

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

1

Enter the node data?27

node inserted

*****Main Menu*****

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

1

Enter the node data?29

node inserted

*****Main Menu*****

Choose one option from the following list ...

F:\DSA\ASSN 10\circular linked list.exe

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

1

Enter the node data?30

node inserted

*****Main Menu*****

Choose one option from the following list ...

=====

- 1.Insert in begining
- 2.Insert at last
- 3.Delete from Beginning
- 4.Delete from last
- 5.Search for an element
- 6.Show
- 7.Exit

Enter your choice?

2

Enter Data?34

node inserted

*****Main Menu*****

Choose one option from the following list ...

F:\DSA\ASSN 10\circular linked list.exe

```
1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
6.Show
7.Exit
```

Enter your choice?

3

node deleted

*****Main Menu*****

Choose one option from the following list ...

=====

```
1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
6.Show
7.Exit
```

Enter your choice?

4

node deleted

*****Main Menu*****

Choose one option from the following list ...

=====

```
1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
```

F:\DSA\ASSN 10\circular linked list.exe

4.Delete from last
5.Search for an element
6.Show
7.Exit

Enter your choice?

5

Enter item which you want to search?

27

item found at location 2

*****Main Menu*****

Choose one option from the following list ...

=====

1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
6.Show
7.Exit

Enter your choice?

6

printing values ...

29

27

25

23

*****Main Menu*****

Choose one option from the following list ...

=====

1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last

F:\DSA\ASSN 10\circular linked list.exe

```
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
6.Show
7.Exit
```

Enter your choice?

6

printing values ...

29

27

25

23

*****Main Menu*****

Choose one option from the following list ...

=====

```
1.Insert in begining
2.Insert at last
3.Delete from Beginning
4.Delete from last
5.Search for an element
6.Show
7.Exit
```

Enter your choice?

7

Process exited after 63.97 seconds with return value 0
Press any key to continue . . .