

Let us call Basic Program Prompt as “Enter :- 1:Create New DiskFile, 2:Insert Record, 3:Delete Record, 4:Display DiskFile Structure, -1:Exit”. Note : Keep the contents of Common.h as it is.

Test-Case 1: Basic Insertion + Deletion + Display

1. Basic Program Prompt : Enter Choice 1
2. Main.cpp: Line 18 switch case starts, it prompts for number of DataPages to create : Enter 2
3. Main.cpp: Line 23 DiskFile class's parameterized constructor is invoked that creates an initial DiskFile of 2 number of empty pages. It also prints the contents of DiskFile. **Output of print should be - Page:1 Records{<0,0,0-0,false>} Page:2 Records{<0,0,0-0,false>}.**
4. Basic Program Prompt : Enter Choice 2
5. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 100
6. Prompts for Record length in bytes : Enter 8
7. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **“Record inserted in Page : 1”**
8. Basic Program Prompt : Enter Choice 2
9. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 101
10. Prompts for Record length in bytes : Enter 15
11. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **“Record inserted in Page : 1”**
12. Basic Program Prompt : Enter Choice 2
13. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 102
14. Prompts for Record length in bytes : Enter 5
15. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **“Record inserted in Page : 1”**
16. Basic Program Prompt : Enter Choice 2
17. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 103
18. Prompts for Record length in bytes : Enter 10
19. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **“Record inserted in Page : 1”**
20. Basic Program Prompt : Enter Choice 2
21. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 104
22. Prompts for Record length in bytes : Enter 25
23. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **“Record inserted in Page : 2”**
24. Basic Program Prompt : Enter Choice 4
25. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,8-0,true> <101,8,15-0,true> <102,23,5-0,true> <103,28,10-0,true>}**
 - b. **Page:2 Records{<104,0,25-0,true>}**
26. Basic Program Prompt : Enter Choice 3
27. Main.cpp: Line 45 switch case starts, prompts for record identifier to be deleted : Enter 102
28. Main.cpp: Line 50 invokes deleteRecord() func of DiskFile.cpp. It displays **"Record deleted from Page :1"**
29. Basic Program Prompt : Enter Choice 4
30. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,8-0,true> <101,8,15-0,true> <0,23,5-0,false> <103,28,10-0,true>}**
 - b. **Page:2 Records{<104,0,25-0,true>}.**
31. Basic Program Prompt : Enter Choice -1
32. Main.cpp: Line 66 switch case starts which exits the program.

Test-Case 2: Various cases for Insertion as described in Code_Helper.pdf

1. Basic Program Prompt : Enter Choice 1
2. Main.cpp: Line 18 switch case starts, it prompts for number of DataPages to create : Enter 2
3. Main.cpp: Line 23 DiskFile class's parameterized constructor is invoked that creates an initial DiskFile of 2 number of empty pages. It also prints the contents of DiskFile. **Output of print should be - Page:1 Records{<0,0,0-0,false>} Page:2 Records{<0,0,0-0,false>}.**
4. Basic Program Prompt : Enter Choice 2
5. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 100
6. Prompts for Record length in bytes : Enter 25
7. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record inserted in Page : 1"**
8. Basic Program Prompt : Enter Choice 2
9. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 101
10. Prompts for Record length in bytes : Enter 20
11. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record inserted in Page : 1"**
12. Basic Program Prompt : Enter Choice 2
13. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 102
14. Prompts for Record length in bytes : Enter 90
15. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record length should be less than effective allowable Page size 79, where the maximum Page size is 100"**
16. Basic Program Prompt : Enter Choice 2
17. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 102
18. Prompts for Record length in bytes : Enter 18
19. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Exhausted space in Page 1. Moving on to Page 2 to insert Record...Record inserted in Page : 2"**
20. Basic Program Prompt : Enter Choice 4
21. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <101,25,20-0,true>}**
 - b. **Page:2 Records{<102,0,18-0,true>}**
22. Basic Program Prompt : Enter Choice 3
23. Main.cpp: Line 45 switch case starts, prompts for record identifier to be deleted : Enter 101
24. Main.cpp: Line 50 invokes deleteRecord() func of DiskFile.cpp. It displays **"Record deleted from Page :1"**
25. Basic Program Prompt : Enter Choice 4
26. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <0,25,20-0,false>}**
 - b. **Page:2 Records{<102,0,18-0,true>}**
27. Basic Program Prompt : Enter Choice 2
28. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 103
29. Prompts for Record length in bytes : Enter 18
30. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record inserted in an empty slot of Page : 1"**
31. Basic Program Prompt : Enter Choice 4
32. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <103,25,18-0,true>}**
 - b. **Page:2 Records{<102,0,18-0,true>}**
33. Basic Program Prompt : Enter Choice -1
34. Main.cpp: Line 66 switch case starts which exits the program.

Test-Case 3: Various cases for Deletion as described in Code_Helper.pdf

1. Basic Program Prompt : Enter Choice 1
2. Main.cpp: Line 18 switch case starts, it prompts for number of DataPages to create : Enter 2
3. Main.cpp: Line 23 DiskFile class's parameterized constructor is invoked that creates an initial DiskFile of 2 number of empty pages. It also prints the contents of DiskFile. **Output of print should be - Page:1 Records{<0,0,0-0,false>}**
Page:2 Records{<0,0,0-0,false>}.
4. Basic Program Prompt : Enter Choice 2
5. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 100
6. Prompts for Record length in bytes : Enter 25
7. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record inserted in Page : 1"**
8. Basic Program Prompt : Enter Choice 2
9. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 101
10. Prompts for Record length in bytes : Enter 20
11. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Record inserted in Page : 1"**
12. Basic Program Prompt : Enter Choice 2
13. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 102
14. Prompts for Record length in bytes : Enter 18
15. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Exhausted space in Page 1. Moving on to Page 2 to insert Record...Record inserted in Page : 2"**
16. Basic Program Prompt : Enter Choice 2
17. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 103
18. Prompts for Record length in bytes : Enter 12
19. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Exhausted space in Page 1. Moving on to Page 2 to insert Record...Record inserted in Page : 2"**
20. Basic Program Prompt : Enter Choice 4
21. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <101,25,20-0,true>}**
 - b. **Page:2 Records{<102,0,18-0,true> <103,18,12-0,true>}**
22. Basic Program Prompt : Enter Choice 3
23. Main.cpp: Line 45 switch case starts, prompts for record identifier to be deleted : Enter 102
24. Main.cpp: Line 50 invokes deleteRecord() func of DiskFile.cpp. It displays **"Record deleted from Page :2"**
25. Basic Program Prompt : Enter Choice 4
26. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <101,25,20-0,true>}**
 - b. **Page:2 Records{<0,0,18-0,false> <103,18,12-0,true>}**
27. Basic Program Prompt : Enter Choice 2
28. Main.cpp: Line 30 switch case starts, it prompts for Record identifier in int to insert into Pages : Enter 104
29. Prompts for Record length in bytes : Enter 15
30. Main.cpp: Line 38 invokes insertRecord() func of DiskFile.cpp. It displays **"Exhausted space in Page 1. Moving on to Page 2 to insert Record...Record inserted in an empty slot of Page : 2"**
31. Basic Program Prompt : Enter Choice 4
32. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <101,25,20-0,true>}**
 - b. **Page:2 Records{<104,0,15-3,true> <103,18,12-0,true>}**
33. Basic Program Prompt : Enter Choice 3
34. Main.cpp: Line 45 switch case starts, prompts for record identifier to be deleted : Enter 104
35. Main.cpp: Line 50 invokes deleteRecord() func of DiskFile.cpp. It displays **"Record deleted from Page :2"**
36. Basic Program Prompt : Enter Choice 4
37. Main.cpp: Line 57 switch case starts, invokes printPages() func of DiskFile.cpp. Output should be -
 - a. **Page:1 Records{<100,0,25-0,true> <101,25,20-0,true>}**
 - b. **Page:2 Records{<0,0,18-0,false> <103,18,12-0,true>}**
38. Basic Program Prompt : Enter Choice -1
39. Main.cpp: Line 66 switch case starts which exits the program.