```
[[dharamsiss@compile p2]$ valgrind --leak-check=full ./cmsc257-s22-p2
==111237== Memcheck, a memory error detector
==111237== Copyright (C) 2002-2017, and GNU GPL'd, by Julian Seward et al.
==111237== Using Valgrind-3.15.0 and LibVEX; rerun with -h for copyright info
==111237== Command: ./cmsc257-s22-p2
==111237==
******
                 dharamsiss Inbox **********
******* Total Inbox: 0010 *********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
1
ID
                           MM/DD/YYYY
                                       Subject----
01 - asonmez@mail.com
                        - 11/20/2020 - Welcome to your inbox.
02 - mmartinez@mail.com - 11/30/2020 - Padding out your inbox.
03 - dboyle@mail.com
                         - 12/02/2020 - 3rd email!
04 - cbluer@mail.com
                         - 12/08/2020 - 4th email!
                         - 12/18/2020 - 5th email!
05 - cboyle@mail.com
06 - sblack@mail.com
                         - 01/01/2021 - 6th email!
07 - sblack@mail.com
                         - 01/05/2021 - 7th email!
08 - sblack@mail.com
                         - 02/15/2021 - 8th email!
09 - sblack@mail.com
                         - 02/25/2021 - 9th email!
10 - dboyle@mail.com
                         - 03/15/2021 - Last email!
```

```
dharamsiss Inbox ***********
******
*****
               Total Inbox: 0010 ***********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
3
                 dharamsiss Inbox **********
******
******* Total Inbox: 0010 **********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
1
    SENDER-----
                          MM/DD/YYYY
                                      Subject----
ID
01 - asonmez@mail.com
                        - 11/20/2020 - Welcome to your inbox.
04 - cbluer@mail.com
                        - 12/08/2020 - 4th email!
                        - 12/18/2020 - 5th email!
05 - cboyle@mail.com
03 - dboyle@mail.com
                        - 12/02/2020 - 3rd email!
10 - dbovle@mail.com
                        - 03/15/2021 - Last email!
02 - mmartinez@mail.com
                        - 11/30/2020 - Padding out your inbox.
07 - sblack@mail.com
                        - 01/05/2021 - 7th email!
08 - sblack@mail.com
                        - 02/15/2021 - 8th email!
09 - sblack@mail.com
                        - 02/25/2021 - 9th email!
                        - 01/01/2021 - 6th email!
06 - sblack@mail.com
```

```
dharamsiss Inbox ***********
*****
*********** Total Inbox: 0010
                               ******
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
5
Enter the keyword you are searching for:
oyl
ID SENDER----- MM/DD/YYYY Subject----
05 - cboyle@mail.com - 12/18/2020 - 5th email!
03 - dboyle@mail.com
                     - 12/02/2020 - 3rd email!
                   - 03/15/2021 - Last email!
10 - dboyle@mail.com
```

```
********** dharamsiss Inbox **********
********** Total Inbox: 0010 *********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
5
Enter the keyword you are searching for:
vou
ID SENDER---- MM/DD/YYYY Subject-----
01 - asonmez@mail.com - 11/20/2020 - Welcome to your inbox.
03 - dboyle@mail.com
                     - 12/02/2020 - 3rd email!
02 - mmartinez@mail.com - 11/30/2020 - Padding out your inbox.
```

```
dharamsiss Inbox
******
                                 ******
*****
                Total Inbox: 0010 ***********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
6
Enter the ID of the e-mail you want to delete:
Email with ID = 2 is deleted
*****
               dharamsiss Inbox ************
******** Total Inbox: 0009 *********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
1
ID
                          MM/DD/YYYY
                                      Subject----
01 - asonmez@mail.com
                        - 11/20/2020 - Welcome to your inbox.
                        - 12/18/2020 - 5th email!
05 - cboyle@mail.com
03 - dboyle@mail.com
                        - 12/02/2020 - 3rd email!
10 - dbovle@mail.com
                        - 03/15/2021 - Last email!
02 - mmartinez@mail.com
                        - 11/30/2020 - Padding out your inbox.
07 - sblack@mail.com
                        - 01/05/2021 - 7th email!
                        - 02/15/2021 - 8th email!
08 - sblack@mail.com
09 - sblack@mail.com
                        - 02/25/2021 - 9th email!
06 - sblack@mail.com
                        - 01/01/2021 - 6th email!
```

```
******* dharamsiss Inbox *********
*********** Total Inbox: 0009 **********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
Enter the keyword you are searching for:
you
ID SENDER----- MM/DD/YYYY Subject-----
01 - asonmez@mail.com - 11/20/2020 - Welcome to your inbox.
03 - dboyle@mail.com - 12/02/2020 - 3rd email!
02 - mmartinez@mail.com - 11/30/2020 - Padding out your inbox.
******** dharamsiss Inbox *********
************* Total Inbox: 0009 ************
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
```

```
dharamsiss Inbox **********
*****
********** Total Inbox: 0009 *********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
1
                           MM/DD/YYYY Subject----
ID
01 - asonmez@mail.com
                         - 11/20/2020 - Welcome to your inbox.
02 - mmartinez@mail.com - 11/30/2020 - Padding out your inbox.
03 - dboyle@mail.com - 12/02/2020 - 3rd email!
05 - cboyle@mail.com - 12/18/2020 - 5th email!
05 - cboyle@mail.com
                         - 12/18/2020 - 5th email!
06 - sblack@mail.com
                        - 01/01/2021 - 6th email!
07 - sblack@mail.com
                        - 01/05/2021 - 7th email!
08 - sblack@mail.com
                        - 02/15/2021 - 8th email!
09 - sblack@mail.com
                         - 02/25/2021 - 9th email!
                         - 03/15/2021 - Last email!
10 - dboyle@mail.com
*********** dharamsiss Inbox *********
********** Total Inbox: 0009 **********
1. Show Inbox
2. Show Email by ID
3. Sort Inbox by Sender
4. Sort Inbox by ID
5. Search Inbox by Keyword
6. Delete
7. Exit Box
Exiting e-mail client - Good Bye!
```

```
==111237==
==111237== HEAP SUMMARY:
==111237==
               in use at exit: 4,632,000 bytes in 1 blocks
==111237==
             total heap usage: 8 allocs, 7 frees, 18,528,064 bytes allocated
==111237==
==111237== 4,632,000 bytes in 1 blocks are definitely lost in loss record 1 of 1
              at 0x4C29F73: malloc (vg_replace_malloc.c:309)
==111237==
==111237==
              by 0x400842: initialize (p2-support.c:23)
==111237==
              by 0x401947: main (cmsc257-s22-p2.c:18)
==111237==
==111237== LEAK SUMMARY:
==111237==
              definitely lost: 4,632,000 bytes in 1 blocks
              indirectly lost: 0 bytes in 0 blocks
==111237==
                possibly lost: 0 bytes in 0 blocks
==111237==
              still reachable: 0 bytes in 0 blocks
==111237==
==111237==
                   suppressed: 0 bytes in 0 blocks
==111237==
==111237== For lists of detected and suppressed errors, rerun with: -s
==111237== ERROR SUMMARY: 1 errors from 1 contexts (suppressed: 0 from 0)
```