GEDB029: Basis and Practice in Programming (Autumn 2012)

Homework 4: Message Manager

Due-date: 2012. 12. 27 11:59 PM

Description
Write a program that allocate 10,000 bytes of character memory space and distributes them
1) There are three users Amy, Bob and Chris.
2) It is 140 characters that can be input at a time (<140).
3) The number of whole input is 100.
4) The contents of input are messages which each user sent to other.
5) The input is passed through ’message.dat’ and this program can get options from command prompt arguments (in following restriction).
6) The input consists of ‘from:to:string’ format each of which represents ‘whom messages are from’, ‘whom messages are to’ and the contents of messages respectively.
7) The program terminates with EOF.

Restriction
1) The program should show error massage and terminate in case of not enough memory while getting input.
   1-1) The size of a message is given that of smaller than 140, you don’t need to care exception handling of it
2) Your program can get options from command prompt when it is executed as arguments.
   2-1) –s <sender> : prints the messages (from the sender).
   2-2) –r <receiver> : prints the messages (to the receiver).
   2-3) –p <pattern> : prints all messages that match the given pattern.
3) The memory allocation function which you should use is ‘salloc(size)’. It take the length of an array as a argument and returns the start address of allocated memory space.
4) The name of input file should be ‘messages.dat’.
5) It is only ‘messages.h’ that you can include as header files. (DO NOT include ‘stdlib.h’)

Example

<table>
<thead>
<tr>
<th>$ ./a.out –s Amy</th>
<th>$ ./a.out –r Bob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hello bob</td>
<td>Not enough memory!</td>
</tr>
<tr>
<td>How is it going?</td>
<td></td>
</tr>
<tr>
<td>Do you know today's homework?</td>
<td></td>
</tr>
</tbody>
</table>