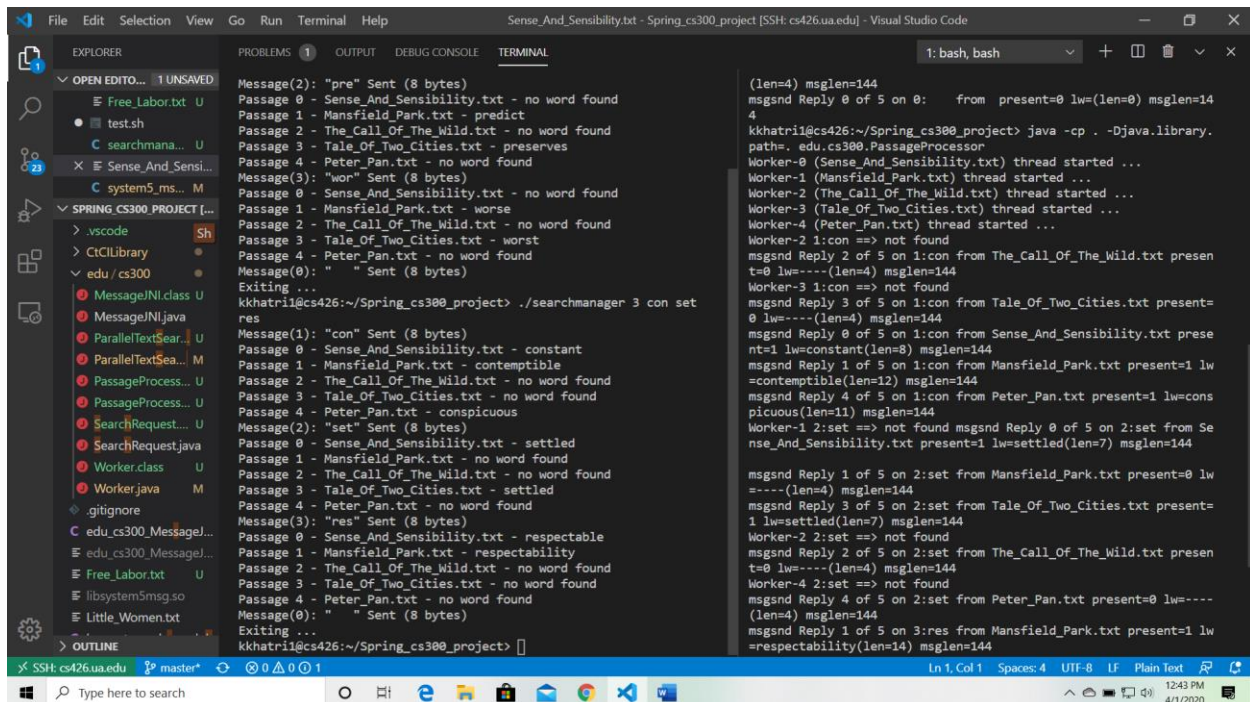


Test Case 1:

./searchmanager 3 con set res

java -cp . -Djava.library.path=. edu.cs300.PassageProcessor

Normal functionality



```
Message(2): "pre" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - no word found
Passage 1 - Mansfield_Park.txt - predict
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - Tale_Of_Two_Cities.txt - preserves
Passage 4 - Peter_Pan.txt - no word found
Message(3): "wor" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - no word found
Passage 1 - Mansfield_Park.txt - worse
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - Tale_Of_Two_Cities.txt - worst
Passage 4 - Peter_Pan.txt - no word found
Message(0): " " Sent (8 bytes)
Exiting ...
kkhatri1@cs426:~/Spring_cs300_project> ./searchmanager 3 con set
res
Message(1): "con" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - Tale_Of_Two_Cities.txt - no word found
Passage 4 - Peter_Pan.txt - conspicuous
Message(2): "set" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - settled
Passage 1 - Mansfield_Park.txt - no word found
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - Tale_Of_Two_Cities.txt - settled
Passage 4 - Peter_Pan.txt - no word found
Message(3): "res" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - respectable
Passage 1 - Mansfield_Park.txt - respectability
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - Tale_Of_Two_Cities.txt - no word found
Passage 4 - Peter_Pan.txt - no word found
Message(0): " " Sent (8 bytes)
Exiting ...
kkhatri1@cs426:~/Spring_cs300_project>

(len=4) msglen=144
msgsnd Reply 0 of 5 on 0: from present=0 lw=(len=0) msglen=14
4
kxhatri1@cs426:~/Spring_cs300_project> java -cp . -Djava.library.
path=. edu.cs300.PassageProcessor
Worker-0 (Sense_And_Sensibility.txt) thread started ...
Worker-1 (Mansfield_Park.txt) thread started ...
Worker-2 (The_Call_Of_The_Wild.txt) thread started ...
Worker-3 (Tale_Of_Two_Cities.txt) thread started ...
Worker-4 (Peter_Pan.txt) thread started ...
Worker-2 1:con ==> not found
msgsnd Reply 2 of 5 on 1:con from The_Call_Of_The_Wild.txt presen
t=0 lw=----(len=4) msglen=144
Worker-3 1:con ==> not found
msgsnd Reply 3 of 5 on 1:con from Tale_Of_Two_Cities.txt present=
0 lw=----(len=4) msglen=144
msgsnd Reply 0 of 5 on 1:con from Sense_And_Sensibility.txt prese
nt=1 lw=constant(len=8) msglen=144
msgsnd Reply 1 of 5 on 1:con from Mansfield_Park.txt present=1 lw
=contemptible(len=12) msglen=144
msgsnd Reply 4 of 5 on 1:con from Peter_Pan.txt present=1 lw=cons
picious(len=11) msglen=144
Worker-1 2:set ==> not found msgsnd Reply 0 of 5 on 2:set from Se
nse_And_Sensibility.txt present=1 lw=settled(len=7) msglen=144

msgsnd Reply 1 of 5 on 2:set from Mansfield_Park.txt present=0 lw
=----(len=4) msglen=144
msgsnd Reply 3 of 5 on 2:set from Tale_Of_Two_Cities.txt present=
1 lw=settled(len=7) msglen=144
Worker-2 2:set ==> not found
msgsnd Reply 2 of 5 on 2:set from The_Call_Of_The_Wild.txt presen
t=0 lw=----(len=4) msglen=144
Worker-4 2:set ==> not found
msgsnd Reply 4 of 5 on 2:set from Peter_Pan.txt present=0 lw=----
(len=4) msglen=144
msgsnd Reply 1 of 5 on 3:res from Mansfield_Park.txt present=1 lw
=respectability(len=14) msglen=144
```

Test Case 2 :

No word found

./searchmanager 3 alsdkjflaskjf

java -cp . -Djava.library.path=. edu.cs300.PassageProcessor

The image shows a screenshot of the Visual Studio Code IDE. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The title bar indicates the active window is 'Sense_And_Sensibility.txt - Spring_cs300_project [SSH: cs426.ua.edu] - Visual Studio Code'. The interface is divided into three main panes. The left pane contains the Explorer view, showing a project structure for 'SPRING_CS300_PROJECT'. It includes folders like 'src' and 'edu/cs300', and files such as 'MessageNI.class', 'MessageNI.java', 'ParallelTextSearch.java', 'ParallelTextSearch.java', 'PassageProcessor.java', 'PassageProcessor.java', 'SearchRequest.java', 'SearchRequest.java', 'Worker.class', 'Worker.class', 'Worker.java', 'gitignore', 'edu_cs300_Message...', 'edu_cs300_Message...', 'Free_Labor.txt', 'libsystem5msg.so', and 'Little_Women.txt'. The middle pane shows the Problems view with a list of messages: 'Message(1): "/>

Test Case 3:

Long Passage

./searchmanager 3 con pre wor

```
File Edit Selection View Go Run Terminal Help
passages.txt - Spring_cs300_project [SSH: cs426.ua.edu] - Visual Studio Code

EXPLORER
OPEN EDITOR... 1 UNSAVED
  Free_Labor.txt U
  test.sh
  searchmana... U
  passages.txt M
  system5... 3, M
  SPRING_CS300_PROJECT [...]
    libsystem5msg.so Sh
    Little_Women.txt
    longest_word_search.h
    Mansfield_Park.txt
    msgrcv U
    msgrcv_lwr.c U
    msgsnd U
    msgsnd_pr.c U
    Pac_Man.txt U
    passages.txt M
    Peter_Pan.txt
    Pride_And_Prejudice.txt
    queue_ids.h M
    README.md
    searchmanager U
    searchmanager.c U
    Sense_And_Sensibility...
    Stopping_The_Vi... U
    system5_msg.c 3, M
  OUTLINE

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1: bash, bash

khhatri1@cs426:~/Spring_cs300_project> ./searchmanager 3 con pre
wor
Message(1): "con" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - no word found
Passage 1 - Mansfield_Park.txt - no word found
Passage 2 - - no word found
Passage 3 - Tale_Of_Two_Cities.txt - no word found
Passage 4 - Peter_Pan.txt - no word found
Passage 5 - - no word found
Message(2): "pre" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt - conspicuous
Passage 5 - - no word found
Message(3): "wor" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt -
Passage 5 - Free_Labor.txt - no word found
Message(0): " " Sent (8 bytes)
Exiting ...
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project>

khhatri1@cs426:~/Spring_cs300_project> java -cp . -Djava.library.
path=. edu.cs300.PassageProcessor
Worker-0 (Sense_And_Sensibility.txt) thread started ...
Worker-2 (The_Call_Of_The_Wild.txt) thread started ...
Worker-3 (Tale_Of_Two_Cities.txt) thread started ...
Worker-4 (Peter_Pan.txt) thread started ...
Worker-5 (Free_Labor.txt) thread started ...
Worker-2 1:alsdkjflaskjf ==> not found
Worker-3 1:alsdkjflaskjf ==> not found
Worker-4 1:alsdkjflaskjf ==> not found
Worker-5 1:alsdkjflaskjf ==> not found
Worker-1 (Mansfield_Park.txt) thread started ...msgsnd Reply 3 of
6 on 1:alsdkjflaskjf from Tale_Of_Two_Cities.txt present=0 lw=--
--(len=4) msglen=144
Worker-3 1:con ==> not found
msgsnd Reply 3 of 6 on 1:con from Tale_Of_Two_Cities.txt present=
0 lw=---(len=4) msglen=144
Worker-1 1:alsdkjflaskjf ==> not found
Worker-3 1:con ==> not found
msgsnd Reply 1 of 6 on 1:alsdkjflaskjf from Mansfield_Park.txt pr
esent=0 lw=---(len=4) msglen=144
msgsnd Reply 3 of 6 on 1:con from Tale_Of_Two_Cities.txt present=
0 lw=---(len=4) msglen=144
msgsnd Reply 4 of 6 on 1:alsdkjflaskjf from Peter_Pan.txt present
=0 lw=---(len=4) msglen=144
Worker-0 1:alsdkjflaskjf ==> not found
msgsnd Reply 0 of 6 on 1:alsdkjflaskjf from Sense_And_Sensibility
.txt present=0 lw=---(len=4) msglen=144
msgsnd Reply 0 of 6 on 1:con from Sense_And_Sensibility.txt prese
nt=1 lw=constant(len=8) msglen=144
msgsnd Reply 4 of 6 on 1:con from Peter_Pan.txt present=1 lw=cons
picious(len=11) msglen=144
msgsnd Reply 0 of 6 on 1:con from Sense_And_Sensibility.txt prese
nt=1 lw=constant(len=8) msglen=144
msgsnd Reply 4 of 6 on 1:con from Peter_Pan.txt present=1 lw=cons
picious(len=11) msglen=144
```

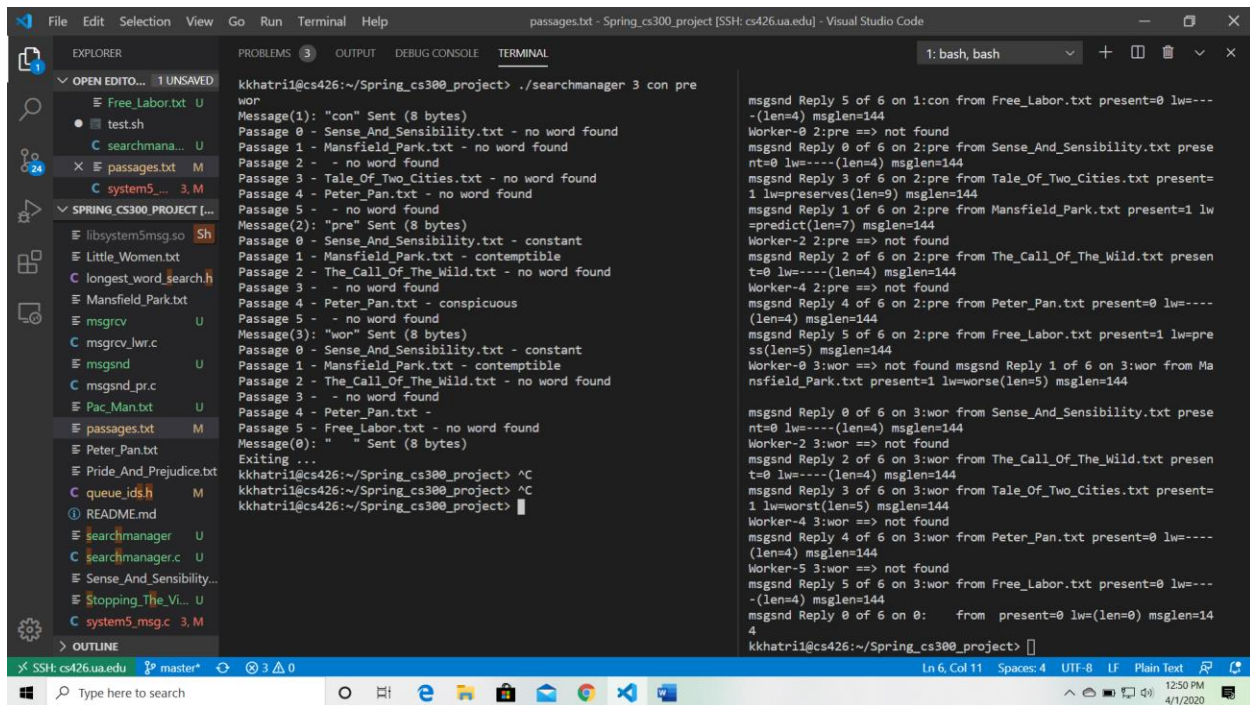
```
File Edit Selection View Go Run Terminal Help
passages.txt - Spring_cs300_project [SSH: cs426.ua.edu] - Visual Studio Code

EXPLORER
OPEN EDITOR... 1 UNSAVED
  Free_Labor.txt U
  test.sh
  searchmana... U
  passages.txt M
  system5... 3, M
  SPRING_CS300_PROJECT [...]
    libsystem5msg.so Sh
    Little_Women.txt
    longest_word_search.h
    Mansfield_Park.txt
    msgrcv U
    msgrcv_lwr.c U
    msgsnd U
    msgsnd_pr.c U
    Pac_Man.txt U
    passages.txt M
    Peter_Pan.txt
    Pride_And_Prejudice.txt
    queue_ids.h M
    README.md
    searchmanager U
    searchmanager.c U
    Sense_And_Sensibility...
    Stopping_The_Vi... U
    system5_msg.c 3, M
  OUTLINE

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1: bash, bash

khhatri1@cs426:~/Spring_cs300_project> ./searchmanager 3 con pre
wor
Message(1): "con" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - no word found
Passage 1 - Mansfield_Park.txt - no word found
Passage 2 - - no word found
Passage 3 - Tale_Of_Two_Cities.txt - no word found
Passage 4 - Peter_Pan.txt - no word found
Passage 5 - - no word found
Message(2): "pre" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt - conspicuous
Passage 5 - - no word found
Message(3): "wor" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt -
Passage 5 - Free_Labor.txt - no word found
Message(0): " " Sent (8 bytes)
Exiting ...
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project>

esent=0 lw=---(len=4) msglen=144
msgsnd Reply 3 of 6 on 1:con from Tale_Of_Two_Cities.txt present=
0 lw=---(len=4) msglen=144
msgsnd Reply 4 of 6 on 1:alsdkjflaskjf from Peter_Pan.txt present
=0 lw=---(len=4) msglen=144
Worker-0 1:alsdkjflaskjf ==> not found
msgsnd Reply 0 of 6 on 1:alsdkjflaskjf from Sense_And_Sensibility
.txt present=0 lw=---(len=4) msglen=144
msgsnd Reply 0 of 6 on 1:con from Sense_And_Sensibility.txt prese
nt=1 lw=constant(len=8) msglen=144
msgsnd Reply 4 of 6 on 1:con from Peter_Pan.txt present=1 lw=cons
picious(len=11) msglen=144
msgsnd Reply 0 of 6 on 1:con from Sense_And_Sensibility.txt prese
nt=1 lw=constant(len=8) msglen=144
msgsnd Reply 4 of 6 on 1:con from Peter_Pan.txt present=1 lw=cons
picious(len=11) msglen=144
msgsnd Reply 1 of 6 on 1:con from Mansfield_Park.txt present=1 lw
=contemptible(len=12) msglen=144
msgsnd Reply 5 of 6 on 1:alsdkjflaskjf from Free_Labor.txt presen
t=0 lw=---(len=4) msglen=144
msgsnd Reply 2 of 6 on 1:alsdkjflaskjf from The_Call_Of_The_Wild.
txt present=0 lw=---(len=4) msglen=144
Worker-2 1:con ==> not found
msgsnd Reply 2 of 6 on 1:con from The_Call_Of_The_Wild.txt presen
t=0 lw=---(len=4) msglen=144
Worker-2 1:con ==> not found
msgsnd Reply 2 of 6 on 1:con from The_Call_Of_The_Wild.txt presen
t=0 lw=---(len=4) msglen=144
Worker-5 1:con ==> not found
msgsnd Reply 5 of 6 on 1:con from Free_Labor.txt present=0 lw=---
--(len=4) msglen=144
Worker-5 1:con ==> not found msgsnd Reply 1 of 6 on 1:con from Ma
nsfield_Park.txt present=1 lw=contemptible(len=12) msglen=144
msgsnd Reply 5 of 6 on 1:con from Free_Labor.txt present=0 lw=---
--(len=4) msglen=144
Worker-0 2:pre ==> not found
```

```
File Edit Selection View Go Run Terminal Help
passages.txt - Spring_cs300_project [SSH: cs426.ua.edu] - Visual Studio Code

EXPLORER
OPEN EDITOR... 1 UNSAVED
  Free_Labor.txt U
  test.sh
  searchmana... U
  passages.txt M
  system5... 3, M
  SPRING_CS300_PROJECT [...]
    libsystem5msg.so Sh
    Little_Women.txt
    longest_word_search.h
    Mansfield_Park.txt
    msgrcv U
    msgrcv_lwr.c
    msgsnd U
    msgsnd_pr.c
    Pac_Man.txt U
    passages.txt M
    Peter_Pan.txt
    Pride_And_Prejudice.txt
    queue_ids.h M
    README.md
    searchmanager U
    searchmanager.c U
    Sense_And_Sensibility...
    Stopping_The_Vi... U
    system5_msg.c 3, M
  OUTLINE

TERMINAL
1: bash, bash
khhatri1@cs426:~/Spring_cs300_project> ./searchmanager 3 con pre
wor
Message(1): "con" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - no word found
Passage 1 - Mansfield_Park.txt - no word found
Passage 2 - - no word found
Passage 3 - Tale_Of_Two_Cities.txt - no word found
Passage 4 - Peter_Pan.txt - no word found
Passage 5 - - no word found
Message(2): "pre" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt - conspicuous
Passage 5 - - no word found
Message(3): "wor" Sent (8 bytes)
Passage 0 - Sense_And_Sensibility.txt - constant
Passage 1 - Mansfield_Park.txt - contemptible
Passage 2 - The_Call_Of_The_Wild.txt - no word found
Passage 3 - - no word found
Passage 4 - Peter_Pan.txt -
Passage 5 - Free_Labor.txt - no word found
Message(0): " " Sent (8 bytes)
Exiting ...
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project> ^C
khhatri1@cs426:~/Spring_cs300_project>

msgsnd Reply 5 of 6 on 1:con from Free_Labor.txt present=0 lw=---
-(len=4) msglen=144
Worker-0 2:pre ==> not found
msgsnd Reply 0 of 6 on 2:pre from Sense_And_Sensibility.txt prese
nt=0 lw=---(len=4) msglen=144
msgsnd Reply 3 of 6 on 2:pre from Tale_Of_Two_Cities.txt present=
1 lw=preserves(len=9) msglen=144
msgsnd Reply 1 of 6 on 2:pre from Mansfield_Park.txt present=1 lw
=predict(len=7) msglen=144
Worker-2 2:pre ==> not found
msgsnd Reply 2 of 6 on 2:pre from The_Call_Of_The_Wild.txt presen
t=0 lw=---(len=4) msglen=144
Worker-4 2:pre ==> not found
msgsnd Reply 4 of 6 on 2:pre from Peter_Pan.txt present=0 lw=---
(len=4) msglen=144
msgsnd Reply 5 of 6 on 2:pre from Free_Labor.txt present=1 lw=pre
ss(len=5) msglen=144
Worker-0 3:wor ==> not found msgsnd Reply 1 of 6 on 3:wor from Ma
nsfield_Park.txt present=1 lw=worse(len=5) msglen=144
msgsnd Reply 0 of 6 on 3:wor from Sense_And_Sensibility.txt prese
nt=0 lw=---(len=4) msglen=144
Worker-2 3:wor ==> not found
msgsnd Reply 2 of 6 on 3:wor from The_Call_Of_The_Wild.txt presen
t=0 lw=---(len=4) msglen=144
msgsnd Reply 3 of 6 on 3:wor from Tale_Of_Two_Cities.txt present=
1 lw=worst(len=5) msglen=144
Worker-4 3:wor ==> not found
msgsnd Reply 4 of 6 on 3:wor from Peter_Pan.txt present=0 lw=---
(len=4) msglen=144
Worker-5 3:wor ==> not found
msgsnd Reply 5 of 6 on 3:wor from Free_Labor.txt present=0 lw=---
-(len=4) msglen=144
msgsnd Reply 0 of 6 on 0: from present=0 lw=(len=0) msglen=14
4
khhatri1@cs426:~/Spring_cs300_project>
```

Text : Free_Labor.txt

I wear an easy garment,

O'er it no toiling slave

Wept tears of hopeless anguish,

In his passage to the grave.

And from its ample folds

Shall rise no cry to God,

Upon its warp and woof shall be

No stain of tears and blood.

Oh, lightly shall it press my form,

Unladen with a sigh,

I shall not 'mid its rustling hear,

Some sad despairing cry.

This fabric is too light to bear

The weight of bondsmen's tears,
I shall not in its texture trace
The agony of years.

Too light to bear a smother'd sigh,
From some lorn woman's heart,
Whose only wreath of household love
Is rudely torn apart.

Then lightly shall it press my form,
Unburden'd by a sigh
And from its seams and folds shall rise,
No voice to pierce the sky,

And witness at the throne of God,
In language deep and strong,
That I have nerv'd Oppression's hand,
For deeds of guilt and wrong.