ComS417 Assignment 3

**Question 1:**

First 5 test frames of *sort.tsl.tsl*:

Test Case 1 (Key = 1.1.1.1.1.1.1.)

help : on

version : on

order : numeric

check : yes

unique : yes

file\_contents : sorted\_alphabetically

duplicates : yes

Test Case 2 (Key = 1.1.1.1.1.1.2.)

help : on

version : on

order : numeric

check : yes

unique : yes

file\_contents : sorted\_alphabetically

duplicates : no

Test Case 3 (Key = 1.1.1.1.1.2.1.)

help : on

version : on

order : numeric

check : yes

unique : yes

file\_contents : sorted\_numerically

duplicates : yes

Test Case 4 (Key = 1.1.1.1.1.2.2.)

help : on

version : on

order : numeric

check : yes

unique : yes

file\_contents : sorted\_numerically

duplicates : no

Test Case 5 (Key = 1.1.1.1.1.3.1.)

help : on

version : on

order : numeric

check : yes

unique : yes

file\_contents : unsorted

duplicates : yes

Last 5 test frames of *sort.tsl.tsl*:

Test Case 380 (Key = 2.2.4.2.2.1.2.)

help : off

version : off

order : reverse

check : no

unique : no

file\_contents : sorted\_alphabetically

duplicates : no

Test Case 381 (Key = 2.2.4.2.2.2.1.)

help : off

version : off

order : reverse

check : no

unique : no

file\_contents : sorted\_numerically

duplicates : yes

Test Case 382 (Key = 2.2.4.2.2.2.2.)

help : off

version : off

order : reverse

check : no

unique : no

file\_contents : sorted\_numerically

duplicates : no

Test Case 383 (Key = 2.2.4.2.2.3.1.)

help : off

version : off

order : reverse

check : no

unique : no

file\_contents : unsorted

duplicates : yes

Test Case 384 (Key = 2.2.4.2.2.3.2.)

help : off

version : off

order : reverse

check : no

unique : no

file\_contents : unsorted

duplicates : no

1. Using Test Case 384, the test frame specifies the following parameters for the *sort* command: help and version turned off, order is set to reverse, check is not specified, no uniqueness check performed, the input file is unsorted, and duplicates are not handled specially.

unsorted.txt:

25

7

100

15

25

9

Running this command produces this result:

A black screen with white text

Description automatically generated

1. *sort.refined.tsl* had 98 test frames generated. In *sort.refined.tsl* the reduction in the number of test frames suggests a refinement or consolidation of test cases, focusing on more meaningful or essential scenarios for testing. Test cases 1 and 2 in *sort.refined.tsl* are specifically for testing the *help* and *version* options. Test cases 3 in *sort.refined.tsl* and further don’t consider *help* and *version* options explicitly. Instead, they focus on various combinations of sorting options without considering the help and version flags.

First 5 test frames of *sort.refined.tsl*:

Test Case 1 <single>

help : help\_on

Test Case 2 <single>

version : version\_on

Test Case 3 (Key = 0.0.1.1.1.1.1.)

help : <n/a>

version : <n/a>

order : numeric

check : yes

unique : yes

file\_contents : sorted\_alphabetically

duplicates : yes

Test Case 4 (Key = 0.0.1.1.1.1.2.)

help : <n/a>

version : <n/a>

order : numeric

check : yes

unique : yes

file\_contents : sorted\_alphabetically

duplicates : no

Test Case 5 (Key = 0.0.1.1.1.2.1.)

help : <n/a>

version : <n/a>

order : numeric

check : yes

unique : yes

file\_contents : sorted\_numerically

duplicates : yes

Last 5 test frames of *sort.refined.tsl*:

Test Case 94 (Key = 0.0.4.2.2.1.2.)

help : <n/a>

version : <n/a>

order : reverse

check : no

unique : no

file\_contents : sorted\_alphabetically

duplicates : no

Test Case 95 (Key = 0.0.4.2.2.2.1.)

help : <n/a>

version : <n/a>

order : reverse

check : no

unique : no

file\_contents : sorted\_numerically

duplicates : yes

Test Case 96 (Key = 0.0.4.2.2.2.2.)

help : <n/a>

version : <n/a>

order : reverse

check : no

unique : no

file\_contents : sorted\_numerically

duplicates : no

Test Case 97 (Key = 0.0.4.2.2.3.1.)

help : <n/a>

version : <n/a>

order : reverse

check : no

unique : no

file\_contents : unsorted

duplicates : yes

Test Case 98 (Key = 0.0.4.2.2.3.2.)

help : <n/a>

version : <n/a>

order : reverse

check : no

unique : no

file\_contents : unsorted

duplicates : no

**Question 2:**

1. For *cit-sort-input.txt*, the TCount value is 66, so there are 66 combinations generated for this file. For *cit-sort-input-3way.txt*, the TCount value is 164, so there are 164 combinations generated for this file.
2. Output from *cit-sort-input.txt*:

A number grid with numbers

Description automatically generated with medium confidence

1. TSL -> CIT

Parameters:

order (numeric 0, default (alpha) 1, random 2, reverse 3)

check (yes 4, no 5)

unique (yes 6, no 7)

Environments:

file-contents (sorted\_alphabetically 8, sorted\_numerically 9, unsorted 10)

duplicates (yes 11, no 12)

1. 0 5 7 9 11 = numeric, no, no, sorted\_numerically, yes
2. 1 4 6 9 12 = default (alpha), yes, yes, sorted\_numerically, no
3. 0 4 6 8 12 = numeric, yes, yes, sorted\_alphabetically, no
4. 3 5 6 8 12 = reverse, no, yes, sorted\_alphabetically, no
5. 3 4 7 10 11 = reverse, yes, no, unsorted, yes
6. 2 4 6 10 11 = random, yes, yes, unsorted, yes
7. 1 5 6 10 12 = default (alpha), no, yes, unsorted, no
8. 2 5 6 9 12 = random, no, yes, sorted\_numerically, no
9. 0 4 7 10 11 = numeric, yes, no, unsorted, yes
10. 1 4 7 8 11 = default (alpha), yes, no, sorted\_alphabetically, yes
11. 3 5 7 9 12 = reverse, no, no, sorted\_numerically, no
12. 2 5 7 8 11 = random, no, no, sorted\_alphabetically, yes

**Question 3:**

1. I have 448 test frames generated in the firefox.tsl.tsl file
2. firefox.tsl

#tsl for firefox

Parameters:

default\_search\_engine:

google.

amazon.com.

bing.

duckduckgo.

ebay.

wikipedia.

tab\_options:

open\_in\_new\_tab:

on.

off.

cycle\_through\_tabs:

on.

off.

switch\_immediately:

on.

off.

confirm\_closing\_multiple:

on.

off.

update preference:

automatic.

manual.

performance\_settings:

yes.

no.

First 5 test frames of *firefox.tsl.tsl:*

Test Case 1 (Key = 1.1.1.1.1.1.1.)

default\_search\_engine : google

open\_in\_new\_tab : on

cycle\_through\_tabs : on

switch\_immediately : on

confirm\_closing\_multiple : on

update preference : automatic

performance\_settings : yes

Test Case 2 (Key = 1.1.1.1.1.1.2.)

default\_search\_engine : google

open\_in\_new\_tab : on

cycle\_through\_tabs : on

switch\_immediately : on

confirm\_closing\_multiple : on

update preference : automatic

performance\_settings : no

Test Case 3 (Key = 1.1.1.1.1.2.1.)

default\_search\_engine : google

open\_in\_new\_tab : on

cycle\_through\_tabs : on

switch\_immediately : on

confirm\_closing\_multiple : on

update preference : manual

performance\_settings : yes

Test Case 4 (Key = 1.1.1.1.1.2.2.)

default\_search\_engine : google

open\_in\_new\_tab : on

cycle\_through\_tabs : on

switch\_immediately : on

confirm\_closing\_multiple : on

update preference : manual

performance\_settings : no

Test Case 5 (Key = 1.1.1.1.2.1.1.)

default\_search\_engine : google

open\_in\_new\_tab : on

cycle\_through\_tabs : on

switch\_immediately : on

confirm\_closing\_multiple : off

update preference : automatic

performance\_settings : yes

Last 5 test frames of *firefox.tsl.tsl:*

Test Case 444 (Key = 7.2.2.2.1.2.2.)

default\_search\_engine : wikipedia

open\_in\_new\_tab : off

cycle\_through\_tabs : off

switch\_immediately : off

confirm\_closing\_multiple : on

update preference : manual

performance\_settings : no

Test Case 445 (Key = 7.2.2.2.2.1.1.)

default\_search\_engine : wikipedia

open\_in\_new\_tab : off

cycle\_through\_tabs : off

switch\_immediately : off

confirm\_closing\_multiple : off

update preference : automatic

performance\_settings : yes

Test Case 446 (Key = 7.2.2.2.2.1.2.)

default\_search\_engine : wikipedia

open\_in\_new\_tab : off

cycle\_through\_tabs : off

switch\_immediately : off

confirm\_closing\_multiple : off

update preference : automatic

performance\_settings : no

Test Case 447 (Key = 7.2.2.2.2.2.1.)

default\_search\_engine : wikipedia

open\_in\_new\_tab : off

cycle\_through\_tabs : off

switch\_immediately : off

confirm\_closing\_multiple : off

update preference : manual

performance\_settings : yes

Test Case 448 (Key = 7.2.2.2.2.2.2.)

default\_search\_engine : wikipedia

open\_in\_new\_tab : off

cycle\_through\_tabs : off

switch\_immediately : off

confirm\_closing\_multiple : off

update preference : manual

performance\_settings : no

**Question 4:**

1. firefox.input.txt:

A screenshot of a computer

Description automatically generated

Output:

A number grid with numbers

Description automatically generated with medium confidence

1. TSL -> CIT

Parameters:

defaut\_search\_engine (google 0, amazon.com 1, bing 2, duckduckgo 3, ebay 4, wikipedia 5)

open\_in\_new\_tab (on 6, off 7)

cycle\_through\_tabs (on 8, off 9)

switch\_immediately (on 10, off 11)

confirm\_closing\_multiple (on 12, off 13)

update preference (automatic 14, manual 15)

performance\_settings (yes 16, no 17)

1. 3 7 8 11 13 15 17 = duckduckgo, off, on, off, off, manual, no
2. 2 6 9 10 12 15 17 = bing, on, off, on, on, manual, no
3. 3 6 9 10 12 14 16 = duckduckgo, on, off, on, on, automatic, yes
4. 5 7 8 10 13 14 17 = wikipedia, off, on, on, off, automatic, no
5. 1 7 9 10 13 14 16 = amazon.com, off, off, on, off, automatic, yes
6. 4 6 8 11 12 14 17 = ebay, on, on, off, on, automatic, no
7. 1 6 8 11 12 15 17 = amazon.com, on, on, off, on, manual, no
8. 0 6 9 11 13 14 16 = google, on, off, off, off, automatic, yes
9. 4 7 9 10 13 15 16 = ebay, off, off, on, off, manual, yes
10. 0 7 8 10 12 15 17 = google, off, on, on, on, manual, no
11. 5 6 9 11 12 15 16 = wikipedia, on, off, off, on, manual, yes
12. 2 7 8 11 13 14 16 = bing, off, on, off, off, automatic, yes
13. Base:

* default\_search\_engine: ebay
* open\_in\_new\_tab: off
* cycle\_through\_tabs: off
* switch\_immediately: off
* confirm\_closing\_multiple: off
* update preference: manual
* performance\_settings, yes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **engine** | **open** | **cycle** | **switch** | **confirm** | **update** | **performance** |
| ebay | Off | Off | Off | Off | Manual | Yes |
| Ebay | On | off | off | off | manual | Yes |
| Ebay | Off | on | off | Off | Manual | Yes |
| Ebay | Off | Off | On | Off | Manual | Yes |
| Ebay | Off | Off | Off | On | Manual | Yes |
| Ebay | Off | Off | Off | Off | automatic | Yes |
| ebay | Off | Off | Off | off | manual | No |
| google | Off | Off | Off | Off | Manual | Yes |
| Amazon.com | Off | Off | Off | Off | Manual | Yes |
| bing | Off | Off | Off | Off | Manual | Yes |
| duckduckgo | off | off | off | off | manual | Yes |
| wikipedia | off | off | off | off | manual | Yes |