Q1


```
ashiswin@ashiswin: ~/Documents/CSE/Lab 1
File  Edit  View  Search  Terminal  Help
ashiswin@ashiswin:~/Documents/CSE/Lab 1$ ./SimpleShell
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csh Version 1.0.0

csh> ls -l
total 264
-rw-rw-r-- 1 ashiswin ashiswin 238937 Jan 25 12:58 Lab1_Shell_Interface.pdf
-rwxr-xr-x 1 ashiswin ashiswin  13040 Jan 27 16:10 SimpleShell
-rw-rw-r-- 1 ashiswin ashiswin   6071 Jan 27 16:10 SimpleShell.c
-rw-rw-r-- 1 ashiswin ashiswin    765 Jan 25 12:56 SimpleShell_Original.c
csh> mkdir sampleFolder
csh> ls
Lab1_Shell_Interface.pdf   SimpleShell     SimpleShell_Original.c
sampleFolder               SimpleShell.c
csh> wronginput
sh: 1: wronginput: not found
csh>
```

This illustrates how basic commands are supported. Commands are executed using the system() function and yield results. Any invalid commands give an error as above.
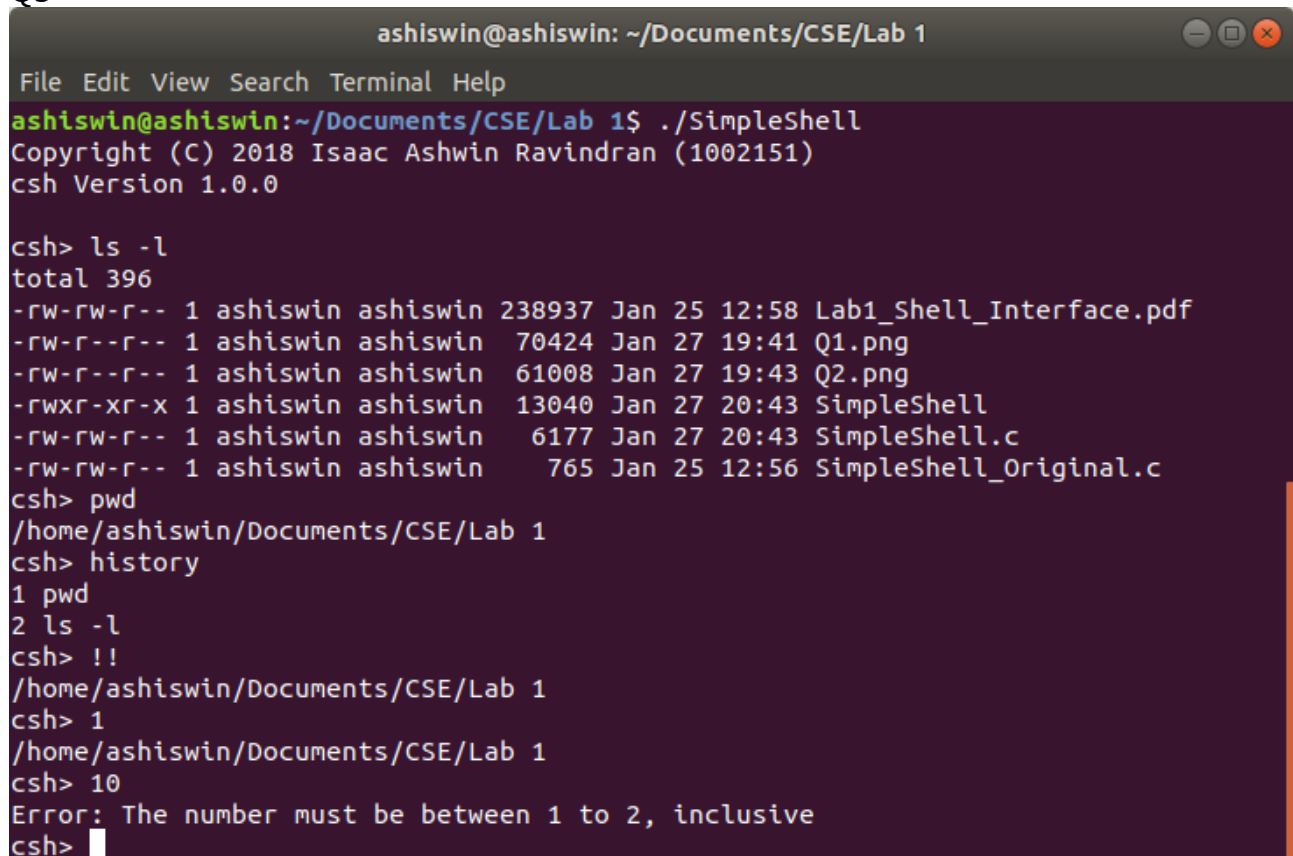
Q2


```
ashiswin@ashiswin: ~/Documents/CSE/Lab 1
File  Edit  View  Search  Terminal  Help
ashiswin@ashiswin:~/Documents/CSE/Lab 1$ ./SimpleShell
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csh Version 1.0.0

csh> pwd
/home/ashiswin/Documents/CSE/Lab 1
csh> cd ..
csh> pwd
/home/ashiswin/Documents/CSE
csh> mkdir myfolder
csh> cd myfolder
csh> pwd
/home/ashiswin/Documents/CSE/myfolder
csh> cd unknownfolder
Error: Directory unknownfolder does not exist!
csh>
```

Changing directories work as requested in the assignment document. All shorthands are supported ('..', '.', '~')

Q3

```
                    ashiswin@ashiswin: ~/Documents/CSE/Lab 1                  ⊖ ▢ ✕

  File  Edit  View  Search  Terminal  Help
ashiswin@ashiswin:~/Documents/CSE/Lab 1$ ./SimpleShell
Copyright (C) 2018 Isaac Ashwin Ravindran (1002151)
csh Version 1.0.0

csh> ls -l
total 396
-rw-rw-r-- 1 ashiswin ashiswin 238937 Jan 25 12:58 Lab1_Shell_Interface.pdf
-rw-r--r-- 1 ashiswin ashiswin  70424 Jan 27 19:41 Q1.png
-rw-r--r-- 1 ashiswin ashiswin  61008 Jan 27 19:43 Q2.png
-rwxr-xr-x 1 ashiswin ashiswin  13040 Jan 27 20:43 SimpleShell
-rw-rw-r-- 1 ashiswin ashiswin   6177 Jan 27 20:43 SimpleShell.c
-rw-rw-r-- 1 ashiswin ashiswin    765 Jan 25 12:56 SimpleShell_Original.c
csh> pwd
/home/ashiswin/Documents/CSE/Lab 1
csh> history
1 pwd
2 ls -l
csh> !!
/home/ashiswin/Documents/CSE/Lab 1
csh> 1
/home/ashiswin/Documents/CSE/Lab 1
csh> 10
Error: The number must be between 1 to 2, inclusive
csh>
```

Here we see the history working. It is implemented using a stack, coded using a linked list. You can refer to the code to see the exact implementation. Therefore, the length of the history stack is limited by the maximum amount of system RAM.