

File and Directory Management:

```
MINGW64/c:/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls
'11111845253522.pst' '11111729873343.doc' 'New Text Document.txt' WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ23699211078.db hAjOCyx1405258369/ solution.txt
'111112146527495.pst' BzgCBEiU1308078143.pdf Programs/ XORXOR1220511717.sq1 XORXOR564147539.pps ZZZZ272018645.db hAjOCyx1406433041/
'111112712433878.doc' BzgCBEiU1607050913.xls WriL7t2Y21981614028.pem XORXOR1240886590.bmp ZZZZ1102561303.mdb ZZZZ2856224080.doc hAjOCyx1531877173.txt
'111112798450238.ppt' BzgCBEiU13079993928.docx WriL7t2Y22069695970.xlsx XORXOR1545669970.pps ZZZZ21177733267.doc desktop.ini hAjOCyx1997556456.txt
'111113468791146.png' BzgCBEiU419349087.pdf WriL7t2Y22548052263.avi XORXOR1766145473.bmp ZZZZ222150631.mdb employee_data.csv hAjOCyx234006053.eml
'111113509498340.ppt' BzgCBEiU500117475.xls WriL7t2Y22626849225.avi XORXOR1994027784.doc ZZZZ2241504222.jpg generate_csv.py.txt hAjOCyx2537666719.pptx
'11111642462574.png' BzgCBEiU714050097.docx WriL7t2Y22665387914.xlsx XORXOR333554352.sq1 ZZZZ2776107389.jpg hAjOCyx1103745261.pptx hAjOCyx2996433466.eml

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -a
'11111845253522.pst' ./ BzgCBEiU714050097.docx WriL7t2Y23281283684.pem XORXOR564147539.pps ZZZZ2856224080.doc hAjOCyx1997556456.txt
'111112146527495.pst' ../ 'New Text Document.txt' XORXOR1220511717.sq1 ZZZZ21102561303.mdb desktop.ini hAjOCyx2234006053.eml
'111112712433878.doc' Programs/ XORXOR1240886590.bmp ZZZZ21177733267.doc employee_data.csv hAjOCyx237666719.pptx
'111112798450238.ppt' BzgCBEiU1308078143.pdf WriL7t2Y21981614028.pem XORXOR1545669970.pps ZZZZ222150631.mdb generate_csv.py.txt hAjOCyx2996433466.eml
'111113468791146.png' BzgCBEiU1607050913.xls WriL7t2Y22069695970.xlsx XORXOR1766145473.bmp ZZZZ2241504222.jpg hAjOCyx1103745261.pptx
'111113509498340.ppt' BzgCBEiU3709993928.docx WriL7t2Y22548052263.avi XORXOR1994027784.doc ZZZZ2776107389.jpg hAjOCyx1405258369/
'11111642462574.png' BzgCBEiU419349087.pdf WriL7t2Y22626849225.avi XORXOR333554352.sq1 ZZZZ23699211078.db hAjOCyx1406433041/
'11111729873343.doc' BzgCBEiU500117475.xls WriL7t2Y22665387914.xlsx XORXOR3740465663.doc ZZZZ27018645.db hAjOCyx1531877173.txt

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -l
total 11717
-rw-r--r-- 1 Sudhansu.Sethi 1049089 350000 Nov 10 09:20 '11111845253522.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 350000 Nov 10 09:20 '111112146527495.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50240 Dec 4 08:42 '111112712433878.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 200000 Dec 4 08:39 '111112798450238.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20000 Dec 4 09:00 '111113468791146.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 200000 Dec 4 08:39 '111113509498340.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20000 Dec 4 09:00 '11111642462574.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50240 Dec 4 08:42 '11111729873343.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 275000 Nov 22 08:29 BzgCBEiU1308078143.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 100000 Nov 22 08:48 BzgCBEiU1607050913.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2024 Nov 22 08:57 BzgCBEiU3709993928.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 275000 Nov 22 08:29 BzgCBEiU419349087.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 100000 Nov 22 08:48 BzgCBEiU500117475.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2024 Nov 22 08:57 BzgCBEiU714050097.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 0 Dec 12 10:28 'New Text Document.txt'
drwxr-xr-x 1 Sudhansu.Sethi 1049089 0 Nov 13 12:37 Programs/
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4048 Nov 30 10:09 WriL7t2Y21981614028.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 150000 Nov 10 09:12 WriL7t2Y22069695970.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 300000 Nov 10 09:28 WriL7t2Y22548052263.avi
-rw-r--r-- 1 Sudhansu.Sethi 1049089 300000 Nov 10 09:28 WriL7t2Y22626849225.avi
-rw-r--r-- 1 Sudhansu.Sethi 150000 Nov 10 09:12 WriL7t2Y22665387914.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4048 Nov 30 10:09 WriL7t2Y23281283684.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 400000 Nov 10 08:52 XORXOR1220511717.sq1
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25000 Dec 4 09:49 XORXOR1240886590.bmp
-rw-r--r-- 1 Sudhansu.Sethi 1049089 225000 Dec 4 09:04 XORXOR1545669970.pps
```

```
MINGW64/c:/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -l
total 128
-rw-r--r-- 1 Sudhansu.Sethi 1049089 342K Nov 10 09:20 '11111845253522.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 342K Nov 10 09:20 '111112146527495.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50K Dec 4 08:42 '111112712433878.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 196K Dec 4 08:39 '111112798450238.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20K Dec 4 09:00 '111113468791146.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 196K Dec 4 08:39 '111113509498340.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20K Dec 4 09:00 '11111642462574.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50K Dec 4 08:42 '11111729873343.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 269K Nov 22 08:29 BzgCBEiU1308078143.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 98K Nov 22 08:48 BzgCBEiU1607050913.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2.0K Nov 22 08:57 BzgCBEiU3709993928.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 269K Nov 22 08:29 BzgCBEiU419349087.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 98K Nov 22 08:48 BzgCBEiU500117475.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2.0K Nov 22 08:57 BzgCBEiU714050097.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 0 Dec 12 10:28 'New Text Document.txt'
drwxr-xr-x 1 Sudhansu.Sethi 1049089 0 Nov 13 12:37 Programs/
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4.0K Nov 30 10:09 WriL7t2Y21981614028.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 147K Nov 10 09:12 WriL7t2Y22069695970.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 293K Nov 10 09:28 WriL7t2Y22548052263.avi
-rw-r--r-- 1 Sudhansu.Sethi 1049089 293K Nov 10 09:28 WriL7t2Y22626849225.avi
-rw-r--r-- 1 Sudhansu.Sethi 1049089 147K Nov 10 09:12 WriL7t2Y22665387914.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4.0K Nov 30 10:09 WriL7t2Y23281283684.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 391K Nov 10 08:52 XORXOR1220511717.sq1
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:49 XORXOR1240886590.bmp
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:04 XORXOR1545669970.pps
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:49 XORXOR1766145473.bmp

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls *.txt
'New Text Document.txt' generate_csv.py.txt solution.txt

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -lh
total 128
-rw-r--r-- 1 Sudhansu.Sethi 1049089 342K Nov 10 09:20 '11111845253522.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 342K Nov 10 09:20 '111112146527495.pst'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50K Dec 4 08:42 '111112712433878.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 196K Dec 4 08:39 '111112798450238.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20K Dec 4 09:00 '111113468791146.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 196K Dec 4 08:39 '111113509498340.ppt'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 20K Dec 4 09:00 '11111642462574.png'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 50K Dec 4 08:42 '11111729873343.doc'
-rw-r--r-- 1 Sudhansu.Sethi 1049089 269K Nov 22 08:29 BzgCBEiU1308078143.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 98K Nov 22 08:48 BzgCBEiU1607050913.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2.0K Nov 22 08:57 BzgCBEiU3709993928.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 269K Nov 22 08:29 BzgCBEiU419349087.pdf
-rw-r--r-- 1 Sudhansu.Sethi 1049089 98K Nov 22 08:48 BzgCBEiU500117475.xls
-rw-r--r-- 1 Sudhansu.Sethi 1049089 2.0K Nov 22 08:57 BzgCBEiU714050097.docx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 0 Dec 12 10:28 'New Text Document.txt'
drwxr-xr-x 1 Sudhansu.Sethi 1049089 0 Nov 13 12:37 Programs/
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4.0K Nov 30 10:09 WriL7t2Y21981614028.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 147K Nov 10 09:12 WriL7t2Y22069695970.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 293K Nov 10 09:28 WriL7t2Y22548052263.avi
-rw-r--r-- 1 Sudhansu.Sethi 1049089 293K Nov 10 09:28 WriL7t2Y22626849225.avi
-rw-r--r-- 1 Sudhansu.Sethi 1049089 147K Nov 10 09:12 WriL7t2Y22665387914.xlsx
-rw-r--r-- 1 Sudhansu.Sethi 1049089 4.0K Nov 30 10:09 WriL7t2Y23281283684.pem
-rw-r--r-- 1 Sudhansu.Sethi 1049089 391K Nov 10 08:52 XORXOR1220511717.sq1
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:49 XORXOR1240886590.bmp
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:04 XORXOR1545669970.pps
-rw-r--r-- 1 Sudhansu.Sethi 1049089 25K Dec 4 09:49 XORXOR1766145473.bmp
```

```
MINGW64/c/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents/Programs
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -R
.:
'!!!!11845253522.pst' '!!!!1729873343.doc' 'New Text Document.txt' WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ3699211078.db hAjOCyx1405258369/ solution.txt
'!!!!12146527495.pst' BzqCbEiU1308078143.pdf Programs/ XORXOR1220511717.sql XORXOR564147539.pps ZZZZ272018645.db hAjOCyx1406433041/
'!!!!12712433878.doc' BzqCbEiU1607050913.xls WriL7t2Y21981614028.pem XORXOR1240886590.bmp ZZZZ1102561303.mdb ZZZZ2856224080.doc hAjOCyx1531877173.txt
'!!!!12798450238.ppt' BzqCbEiU3709993928.docx WriL7t2Y22069695970.xlsx XORXOR1545669970.pps ZZZZ1177733267.doc desktop.ini hAjOCyx1997556456.txt
'!!!!13468791146.png' BzqCbEiU419349087.pdf WriL7t2Y22548052263.avi XORXOR1766145473.bmp ZZZZ222150631.mdb employee_data.csv hAjOCyx2234006053.eml
'!!!!13509498340.ppt' BzqCbEiU500117475.xls WriL7t2Y22626849225.avi XORXOR1994027784.doc ZZZZ2241504222.jpg generate_csv.py.txt hAjOCyx2537666719.pptx
'!!!!1642462574.png' BzqCbEiU714050097.docx WriL7t2Y22665387914.xlsx XORXOR333554352.sql ZZZZ2776107389.jpg hAjOCyx1103745261.pptx hAjOCyx2996433466.eml

./Programs:
medianOfArray.txt

./hAjOCyx1405258369:
'!!!!12146527495.pst' '!!!!13468791146.png' BzqCbEiU714050097.docx WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ2241504222.jpg hAjOCyx1103745261.pptx
'!!!!12712433878.doc' BzqCbEiU1308078143.pdf WriL7t2Y22069695970.xlsx XORXOR564147539.pps ZZZZ3699211078.db hAjOCyx1997556456.txt
'!!!!12798450238.ppt' BzqCbEiU1607050913.xls WriL7t2Y22626849225.avi XORXOR1240886590.bmp ZZZZ222150631.mdb ZZZZ2856224080.doc hAjOCyx2996433466.eml

./hAjOCyx1406433041:
'!!!!12146527495.pst' '!!!!13468791146.png' BzqCbEiU714050097.docx WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ2241504222.jpg hAjOCyx1103745261.pptx
'!!!!12712433878.doc' BzqCbEiU1308078143.pdf WriL7t2Y22069695970.xlsx XORXOR1220511717.sql XORXOR564147539.pps ZZZZ3699211078.db hAjOCyx1997556456.txt
'!!!!12798450238.ppt' BzqCbEiU1607050913.xls WriL7t2Y22626849225.avi XORXOR1240886590.bmp ZZZZ222150631.mdb ZZZZ2856224080.doc hAjOCyx2996433466.eml

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -d /*
./LICENSE.txt ./ReleaseNotes.html ./bin/ ./cmd/ ./dev/ ./etc/ ./git-bash.exe* ./git-cmd.exe* ./mingw64/ ./proc/ ./tmp/ ./unins000.dat ./unins000.exe* ./unins000.msg ./usr/

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -F
'!!!!11845253522.pst' '!!!!1729873343.doc' 'New Text Document.txt' WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ3699211078.db hAjOCyx1405258369/ solution.txt
'!!!!12146527495.pst' BzqCbEiU1308078143.pdf Programs/ XORXOR1220511717.sql XORXOR564147539.pps ZZZZ272018645.db hAjOCyx1406433041/
'!!!!12712433878.doc' BzqCbEiU1607050913.xls WriL7t2Y21981614028.pem XORXOR1240886590.bmp ZZZZ1102561303.mdb ZZZZ2856224080.doc hAjOCyx1531877173.txt
'!!!!12798450238.ppt' BzqCbEiU3709993928.docx WriL7t2Y22069695970.xlsx XORXOR1545669970.pps ZZZZ1177733267.doc desktop.ini hAjOCyx1997556456.txt
'!!!!13468791146.png' BzqCbEiU419349087.pdf WriL7t2Y22548052263.avi XORXOR1766145473.bmp ZZZZ222150631.mdb employee_data.csv hAjOCyx2234006053.eml
'!!!!13509498340.ppt' BzqCbEiU500117475.xls WriL7t2Y22626849225.avi XORXOR1994027784.doc ZZZZ2241504222.jpg generate_csv.py.txt hAjOCyx2537666719.pptx
'!!!!1642462574.png' BzqCbEiU714050097.docx WriL7t2Y22665387914.xlsx XORXOR333554352.sql ZZZZ2776107389.jpg hAjOCyx1103745261.pptx hAjOCyx2996433466.eml

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ cd Programs/
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ pwd
/c/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents/Programs
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ pwd -p
bash: pwd: -p: invalid option
pwd: usage: pwd [-LPw]
```

```
MINGW64/Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ ls -F
'!!!!11845253522.pst' '!!!!1729873343.doc' 'New Text Document.txt' WriL7t2Y23281283684.pem XORXOR3740465663.doc ZZZZ3699211078.db hAjOCyx1405258369/ solution.txt
'!!!!12146527495.pst' BzqCbEiU1308078143.pdf Programs/ XORXOR1220511717.sql XORXOR564147539.pps ZZZZ272018645.db hAjOCyx1406433041/
'!!!!12712433878.doc' BzqCbEiU1607050913.xls WriL7t2Y21981614028.pem XORXOR1240886590.bmp ZZZZ1102561303.mdb ZZZZ2856224080.doc hAjOCyx1531877173.txt
'!!!!12798450238.ppt' BzqCbEiU3709993928.docx WriL7t2Y22069695970.xlsx XORXOR1545669970.pps ZZZZ1177733267.doc desktop.ini hAjOCyx1997556456.txt
'!!!!13468791146.png' BzqCbEiU419349087.pdf WriL7t2Y22548052263.avi XORXOR1766145473.bmp ZZZZ222150631.mdb employee_data.csv hAjOCyx2234006053.eml
'!!!!13509498340.ppt' BzqCbEiU500117475.xls WriL7t2Y22626849225.avi XORXOR1994027784.doc ZZZZ2241504222.jpg generate_csv.py.txt hAjOCyx2537666719.pptx
'!!!!1642462574.png' BzqCbEiU714050097.docx WriL7t2Y22665387914.xlsx XORXOR333554352.sql ZZZZ2776107389.jpg hAjOCyx1103745261.pptx hAjOCyx2996433466.eml

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents
$ cd Programs/
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ pwd
/c/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents/Programs
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ pwd -p
bash: pwd: -p: invalid option
pwd: usage: pwd [-LPw]

Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ pwd -P
/c/Users/Sudhansu.Sethi/OneDrive - Apexon/Documents/Programs
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ mkdir -P Apexon/Documents/newDir
mkdir: unknown option -- P
Try 'mkdir --help' for more information.
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ mkdir -p /Apexon/Documents/newDir
Sudhansu.Sethi@ICPL14802 MINGW64 ~/OneDrive - Apexon/Documents/Programs
$ cd /Apexon/Documents/
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ls
newDir/
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ rm -rf newDir
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ls
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$
```

Process Management:

```
MINGW64/Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps aux
  PID   PPID   PGID   WINPID   TTY      UID     STIME  COMMAND
 1857   1756   1857   14408   pts/0    1100471 12:25:11 /usr/bin/ps
 1755     1   1755   1476     ?        1100471 11:07:39 /usr/bin/mintty
 1756   1755   1756   18480   pts/0    1100471 11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps -e
  PID   PPID   PGID   WINPID   TTY      UID     STIME  COMMAND
 1861   1756   1861   13436   pts/0    1100471 12:25:21 /usr/bin/ps
 1755     1   1755   1476     ?        1100471 11:07:39 /usr/bin/mintty
 1756   1755   1756   18480   pts/0    1100471 11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps -f
  UID     PID   PPID   TTY      STIME  COMMAND
Sudhansu 1865   1756   pts/0    12:25:28 /usr/bin/ps
Sudhansu 1755     1     ?        11:07:39 /usr/bin/mintty
Sudhansu 1756   1755   pts/0    11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps -ef
  UID     PID   PPID   TTY      STIME  COMMAND
Sudhansu 1869   1756   pts/0    12:25:34 /usr/bin/ps
Sudhansu 1755     1     ?        11:07:39 /usr/bin/mintty
Sudhansu 1756   1755   pts/0    11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps
  PID   PPID   PGID   WINPID   TTY      UID     STIME  COMMAND
 1873   1756   1873   21312   pts/0    1100471 12:26:22 /usr/bin/ps
 1755     1   1755   1476     ?        1100471 11:07:39 /usr/bin/mintty
 1756   1755   1756   18480   pts/0    1100471 11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps aux | grep pts/0
  PID   PPID   PGID   WINPID   TTY      UID     STIME  COMMAND
 1877   1756   1877   20944   pts/0    1100471 12:27:04 /usr/bin/ps
 1878   1756   1877   17852   pts/0    1100471 12:27:04 /usr/bin/bash
 1756   1755   1756   18480   pts/0    1100471 11:07:39 /usr/bin/bash

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps --forest
ps: unknown option -- forest
Try 'ps --help' for more information.

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ps -- 1873
  PID   PPID   PGID   WINPID   TTY      UID     STIME  COMMAND
```

Network and Connectivity:

```
MINGW64/Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ping www.google.com

Pinging www.google.com [2404:6800:4007:829::2004] with 32 bytes of data:
Reply from 2404:6800:4007:829::2004: time=7ms
Reply from 2404:6800:4007:829::2004: time=9ms
Reply from 2404:6800:4007:829::2004: time=9ms
Reply from 2404:6800:4007:829::2004: time=8ms

Ping statistics for 2404:6800:4007:829::2004:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 9ms, Average = 8ms

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ nestat
bash: nestat: command not found

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ netstat

Active Connections

Proto Local Address           Foreign Address         State
TCP    127.0.0.1:25427         ICPL14802:49672        ESTABLISHED
TCP    127.0.0.1:25427         ICPL14802:59643        ESTABLISHED
TCP    127.0.0.1:25428         ICPL14802:59680        ESTABLISHED
TCP    127.0.0.1:49670         ICPL14802:55552        ESTABLISHED
TCP    127.0.0.1:49672         ICPL14802:25427        ESTABLISHED
TCP    127.0.0.1:55296         ICPL14802:51577        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51578        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51579        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51580        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51582        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51583        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51586        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51587        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51588        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51589        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51590        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51591        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51592        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51593        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51594        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51595        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51596        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51597        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51598        TIME_WAIT
TCP    127.0.0.1:55296         ICPL14802:51599        TIME_WAIT
```

```
MINGW64/Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ping www.google.com

Pinging www.google.com [2404:6800:4007:829::2004] with 32 bytes of data:
Microsoft Telnet> exit
Invalid Command. type ?/help for help
Microsoft Telnet> quit

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ nslookup
Default Server: Unknown
Address: 2406:7400:a:10::2

> |
```

```
MINGW64/Apexon/Documents
Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ ping www.google.com

Pinging www.google.com [2404:6800:4007:829::2004] with 32 bytes of data:
Microsoft Telnet> exit
Invalid Command. type ?/help for help
Microsoft Telnet> quit

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ nslookup
Default Server: Unknown
Address: 2406:7400:a:10::2

>

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ scp
usage: scp [-346A2C0p0rRstV] [-c cipher] [-D sftp_server_path] [-F ssh_config]
          [-i identity_file] [-J destination] [-l limit] [-o ssh_option]
          [-P port] [-S program] [-X sftp_option] source ... target

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ rsync
bash: rsync: command not found

Sudhansu.Sethi@ICPL14802 MINGW64 /Apexon/Documents
$ |
```

System Monitoring and Diagnostics:

```
root@ICPL14802:/home
root@ICPL14802:/home# uptime
08:11:13 up 0 min, 0 user, load average: 0.52, 0.58, 0.59
root@ICPL14802:/home# vmstat
vmstat: Unable to create vmstat structure
root@ICPL14802:/home# iostat
Command 'iostat' not found, but can be installed with:
apt install sysstat
root@ICPL14802:/home# free
              total        used        free      shared  buff/cache   available
Mem:      16160132     10805606      5354436       17720       229352      5354436
Swap:      31147448       490764      30656684

root@ICPL14802:/home# dmesg
[ 0.023218] Microsoft 4.4.0-19041.4355-Microsoft 4.4.35
[ 0.111583] <3>init: (1) ERROR: ConfigInitializeCommon:665: Failed to mount /usr/lib/wsl/drive
[ 0.111589] : 19
[ 0.111807] <3>init: (1) ERROR: ConfigInitializeCommon:665: Failed to mount /usr/lib/wsl/lib
[ 0.111811] 19
[ 0.639628] <3>init: (1) ERROR: UpdateTimezone:97: Asia/Calcutta timezone not found. Is the tzdata package installed?
[ 0.639632] ;
[ 0.639635] init: (1) ERROR: InitEntryWsl:2605: UpdateTimezone failed
root@ICPL14802:/home# sar
Command 'sar' not found, but can be installed with:
apt install sysstat
root@ICPL14802:/home# lsof
COMMAND PID TID TASKCMD USER  FD  TYPE DEVICE  SIZE      NODE NAME
init      1      root  cwd      DIR      0,2  4096  6473924464376818 /
init      1      root  rtd      DIR      0,2  4096  6473924464376818 /
init      1      root  txt      REG      0,2  644432  5066549580825094 /init
init      1      root  mem      REG      0,0          33286 /init (path dev=0,2, inode=5066549580825094)
init      1      root  3w       CHR      1,11  2251799813852537 /dev/kmsg
init      1      root  0u       CHR      1,3   1125899907089937 /dev/null
init      1      root  1u       CHR      1,3   1125899907089937 /dev/null
init      1      root  2u       CHR      1,3   1125899907089937 /dev/null
init      1      root  4u       CHR      10,50 1125899907089941 /dev/lxss
init      1      root  5u       unknown /unknown (stat: Operation not permitted)
init      1      root  8u       DIR      0,2  4096  6473924464376818 /
init      1      root  9u       sock     0,0          8 can't identify protocol
init      1     10u       unknown anon_inode (stat: Operation not permitted)
init      1      root  6u       unknown anon_inode (stat: Operation not permitted)
init      1  6 init  cwd      DIR      0,2  4096  6473924464376818 /
init      1  6 init  rtd      DIR      0,2  4096  6473924464376818 /
init      1  6 init  txt      REG      0,2  644432  5066549580825094 /init
init      1  6 init  mem      REG      0,0          33286 /init (path dev=0,2, inode=5066549580825094)
init      1  6 init  root     3w       CHR      1,11  2251799813852537 /dev/kmsg
```

```
root@ICPL14802:/home
root@ICPL14802:/home# df
Filesystem      1K-blocks    Used Available Use% Mounted on
rootfs          249179612  74947068  174232544   31% /
none            249179612  74947068  174232544   31% /dev
none            249179612  74947068  174232544   31% /run
none            249179612  74947068  174232544   31% /run/lock
none            249179612  74947068  174232544   31% /run/shm
none            249179612  74947068  174232544   31% /run/user
tmpfs           249179612  74947068  174232544   31% /sys/fs/cgroup
C:\             249179612  74947068  174232544   31% /mnt/c

root@ICPL14802:/home# du
.
0
root@ICPL14802:/home# who
root@ICPL14802:/home# w
08:13:08 up 2 min, 0 user, load average: 0.52, 0.58, 0.59
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
root@ICPL14802:/home# last

wtmp begins Mon Dec 16 06:33:18 2024
root@ICPL14802:/home#
```

Log Management:

```
root@ICPL14802:/home/dummy
root@ICPL14802:/home# cd dummy/
root@ICPL14802:/home/dummy# ll
total 0
drwxr-xr-x 1 root root 4096 Dec 16 08:20 ./
drwxr-xr-x 1 root root 4096 Dec 16 08:18 ../
-rw-r--r-- 1 root root  0 Dec 16 08:20 newdoc.log
root@ICPL14802:/home/dummy# tail newdoc.log
root@ICPL14802:/home/dummy# head newdoc.log
root@ICPL14802:/home/dummy# vi newdoc.log
root@ICPL14802:/home/dummy# grep "error" newdoc.log
error msgerror msg
root@ICPL14802:/home/dummy# less newdoc.log
root@ICPL14802:/home/dummy# cat newdoc.log
error msgerror msg
root@ICPL14802:/home/dummy# journalctl
No journal files were found.
-- No entries --
root@ICPL14802:/home/dummy# logger "Custom log entry"
root@ICPL14802:/home/dummy#
```

User and Permission Management:

```
root@ICPL14802:/home/dummy
root@ICPL14802:/home/dummy#
root@ICPL14802:/home/dummy# whoami
root
root@ICPL14802:/home/dummy# id
uid=0(root) gid=0(root) groups=0(root)
root@ICPL14802:/home/dummy# sudo
usage: sudo -h | -k | -k | -v
usage: sudo -v [-ABkNnS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABkNnS] [-g group] [-h host] [-p prompt] [-u user]
        [-u user] [command [arg ...]]
usage: sudo [-ABbEHknPS] [-r role] [-t type] [-C num] [-D directory]
        [-g group] [-h host] [-p prompt] [-R directory] [-T timeout]
        [-u user] [VAR=value] [-i | -s] [command [arg ...]]
usage: sudo -e [-ABkNnS] [-r role] [-t type] [-C num] [-D directory]
        [-g group] [-h host] [-p prompt] [-R directory] [-T timeout]
        [-u user] file ...
root@ICPL14802:/home/dummy# usermod
Usage: usermod [options] LOGIN

Options:
  -a, --append                append the user to the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -b, --badname               allow bad names
  -c, --comment COMMENT       new value of the GECOS field
  -d, --home HOME_DIR         new home directory for the user account
  -e, --expiredate EXPIRE_DATE set account expiration date to EXPIRE_DATE
  -f, --inactive INACTIVE     set password inactive after expiration
                              to INACTIVE
  -g, --gid GROUP              force use GROUP as new primary group
  -G, --groups GROUPS          new list of supplementary GROUPS
  -h, --help                  display this help message and exit
  -l, --login NEW_LOGIN        new value of the login name
  -L, --lock                  lock the user account
  -m, --move-home             move contents of the home directory to the
                              new location (use only with -d)
  -o, --non-unique             allow using duplicate (non-unique) UID
  -p, --password PASSWORD      use encrypted password for the new password
  -P, --prefix PREFIX_DIR      prefix directory where are located the /etc/* files
  -r, --remove                remove the user from only the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -R, --root CHROOT_DIR       directory to chroot into
```

```
root@ICPL14802:/home/dummy
root@ICPL14802:/home/dummy# useradd Sudhansu1
root@ICPL14802:/home/dummy# usermod Sudhansu1
usermod: no options
Usage: usermod [options] LOGIN

Options:
  -a, --append                append the user to the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -b, --badname               allow bad names
  -c, --comment COMMENT       new value of the GECOS field
  -d, --home HOME_DIR         new home directory for the user account
  -e, --expiredate EXPIRE_DATE set account expiration date to EXPIRE_DATE
  -f, --inactive INACTIVE     set password inactive after expiration
                              to INACTIVE
  -g, --gid GROUP              force use GROUP as new primary group
  -G, --groups GROUPS         new list of supplementary GROUPS
  -h, --help                  display this help message and exit
  -l, --login NEW_LOGIN        new value of the login name
  -L, --lock                  lock the user account
  -m, --move-home             move contents of the home directory to the
                              new location (use only with -d)
  -o, --non-unique            allow using duplicate (non-unique) UID
  -p, --password PASSWORD     use encrypted password for the new password
  -P, --prefix PREFIX_DIR     prefix directory where are located the /etc/* files
  -r, --remove                remove the user from only the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -R, --root CHROOT_DIR       directory to chroot into
  -s, --shell SHELL           new login shell for the user account
  -u, --uid UID               new UID for the user account
  -U, --unlock                unlock the user account
  -v, --add-subuids FIRST-LAST add range of subordinate uids
  -V, --del-subuids FIRST-LAST remove range of subordinate uids
  -w, --add-subgids FIRST-LAST add range of subordinate gids
  -W, --del-subgids FIRST-LAST remove range of subordinate gids
  -Z, --selinux-user SEUSER   new SELinux user mapping for the user account

root@ICPL14802:/home/dummy# groups
root
root@ICPL14802:/home/dummy#
```

Archiving and Compression:

```
root@ICPL14802:/home/dummy
root@ICPL14802:/home/dummy# ll
total 0
drwxr-xr-x 1 root root 4096 Dec 16 08:22 ./
drwxr-xr-x 1 root root 4096 Dec 16 08:18 ../
-rw-r--r-- 1 root root 19 Dec 16 08:22 newdoc.log
root@ICPL14802:/home/dummy# tar new
newA newC newD newE newF newG newH
root@ICPL14802:/home/dummy# tar newdoc.log
tar: Old option 'g' requires an argument.
Try 'tar --help' or 'tar --usage' for more information.
root@ICPL14802:/home/dummy# tar -cf archive.tar
tar: Cowardly refusing to create an empty archive
Try 'tar --help' or 'tar --usage' for more information.
root@ICPL14802:/home/dummy# tar -cf archive.tar newdoc.log
root@ICPL14802:/home/dummy# gzip newdoc.log
root@ICPL14802:/home/dummy# ls
archive.tar  newdoc.log.gz
root@ICPL14802:/home/dummy# zip newdoc.log.gz
Command 'zip' not found, but can be installed with:
apt install zip
root@ICPL14802:/home/dummy# zip newdoc.log
Command 'zip' not found, but can be installed with:
apt install zip
root@ICPL14802:/home/dummy# zip archive.zip newdoc.log.gz
Command 'zip' not found, but can be installed with:
apt install zip
root@ICPL14802:/home/dummy# zip archive.zip error.log
Command 'zip' not found, but can be installed with:
apt install zip
root@ICPL14802:/home/dummy# xz error.log
root@ICPL14802:/home/dummy#
```

Disk Management: