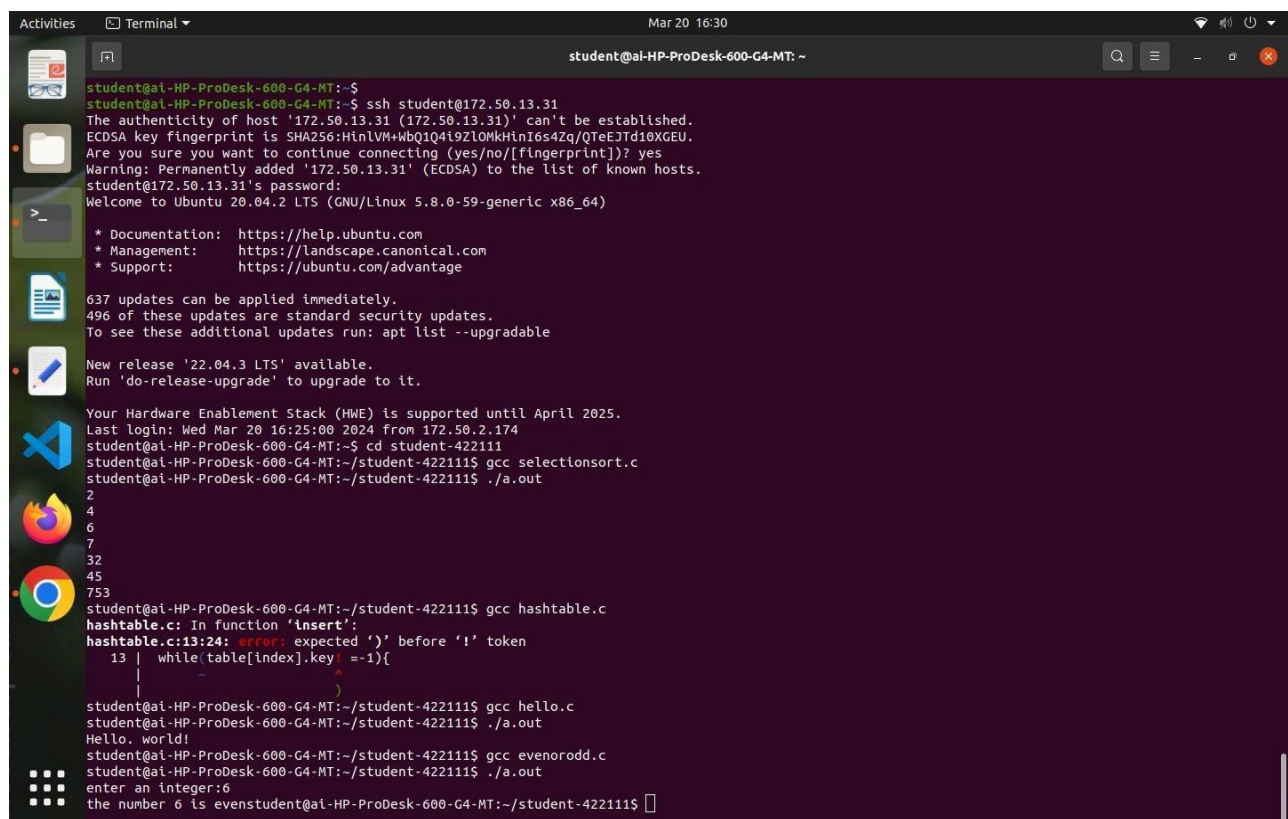


UNIX ASSIGNMENT:5 NAME: E.SHYAM

SEC:A ROLL NUMBER:422144

1. Using SSH command execute the three programs on two different machines.

Code:

A terminal window titled 'Terminal' with a date and time of 'Mar 20 16:30'. The prompt is 'student@ai-HP-ProDesk-600-G4-MT: ~'. The user enters 'ssh student@172.50.13.31'. The terminal shows the SSH connection process, including host fingerprinting and a warning about adding the host to the list of known hosts. The user enters their password, and the terminal displays the Ubuntu 20.04.2 LTS welcome message and system updates. The user then enters 'cd student-422111'. The terminal shows the directory contents: 'selectionsort.c', 'a.out', and a list of files with line numbers. The user enters 'gcc hashtable.c', which results in a compilation error: 'error: expected ')' before '!' token'. The user then enters 'gcc hello.c', which results in a successful compilation. The user enters './a.out', which results in the output 'Hello, world!'. The user then enters 'gcc evenorodd.c', which results in a successful compilation. The user enters './a.out', which results in the prompt 'enter an integer:'. The user enters '6', and the terminal displays the output 'the number 6 is even'.

```
student@ai-HP-ProDesk-600-G4-MT:~$
student@ai-HP-ProDesk-600-G4-MT:~$ ssh student@172.50.13.31
The authenticity of host '172.50.13.31 (172.50.13.31)' can't be established.
ECDSA key fingerprint is SHA256:HlnVM+wbQ1Q4i9ZL0MKHlnI6s4Zq/QTeEJTd10XGEU.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.50.13.31' (ECDSA) to the list of known hosts.
student@172.50.13.31's password:
Welcome to Ubuntu 20.04.2 LTS (GNU/Linux 5.8.0-59-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

637 updates can be applied immediately.
496 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

New release '22.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Wed Mar 20 16:25:00 2024 from 172.50.2.174
student@ai-HP-ProDesk-600-G4-MT:~$ cd student-422111
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc selectionsort.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
2
4
6
7
32
45
753
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc hashtable.c
hashtable.c: In function 'insert':
hashtable.c:13:24: error: expected ')' before '!' token
   13 |     while(table[index].key! =-1){
       |                        ^
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc hello.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
Hello, world!
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc evenorodd.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
enter an integer:6
the number 6 is evenstudent@ai-HP-ProDesk-600-G4-MT:~/student-422111$
```

```
Activities Terminal Mar 20 16:27
student@ai-HP-ProDesk-600-G4-MT: ~

student@ai-HP-ProDesk-600-G4-MT:~$ ssh student@172.50.13.31
The authenticity of host '172.50.13.31 (172.50.13.31)' can't be established.
ECDSA key fingerprint is SHA256:HlnlVM+WbQ1Q4i9ZlOMKhInI6s4Zq/QTeEJTD10XGEU.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.50.13.31' (ECDSA) to the list of known hosts.
student@172.50.13.31's password:
Welcome to Ubuntu 20.04.2 LTS (GNU/Linux 5.8.0-59-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

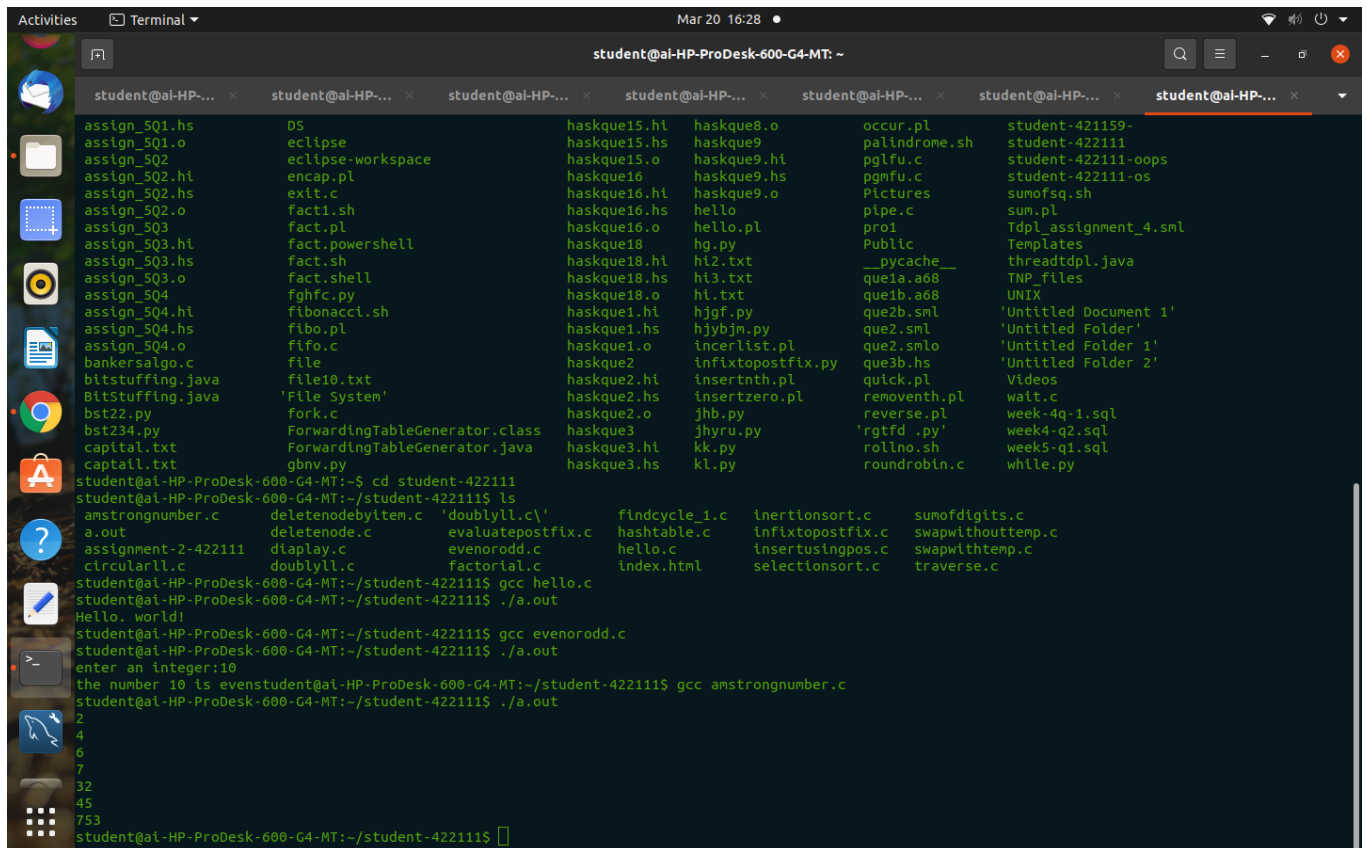
637 updates can be applied immediately.
496 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

New release '22.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Wed Mar 20 15:01:34 2024 from 172.50.6.155
student@ai-HP-ProDesk-600-G4-MT:~$ ls
01.py                                Client_arp.class          ghjkk.py                 haskque3.o                lab9q1_files              RR.py
422111-unix                          Client_arp.java           hadoop-3.3.6             haskque4                  lab9q1.html               scheduling_1.c
'621209 question 7.py'              Clientarp.java            haskque1                  haskque4.hi               length.pl                 scheduling_2.c
'621209 quesyon8.py'                Clienttrarp               haskque10                 haskque4.hs               Main.java                 seclar.sh
622250                               Clienttrarp.class         haskque10.hi              haskque4.o                math.py                   Server_arp.class
8_puzzle.py                          Clienttrarp.java          haskque10.hs              haskque5                   max.pl                    Serverarp.class
abc.py                                code                       haskque10.o               haskque5.hi                mbn.py                    Server_arp.java
add.pl                                conio.h                  haskque11                  haskque5.hs                merge.pl                   Serverarp.class
AI_assign_4.py                       containnum.pl             haskque11.hi              haskque5.o                nki.py                    Serrerrarp.class
AIlab3_01.py                         crc.class                 haskque11.hs              haskque6                   modify.pl                  Serrerrarp.java
anaconda3                            crc.java                  haskque11.o               haskque6.hi                multithread2.c            sharedmemory.c
a.out                                CRC.py                   haskque12                  haskque6.hs                multithread3.c            signal.c
append.pl                            dbms_lab3_q1.sql          haskque12.hi              haskque6.o                multithread.c            snap
area.py                              dbms_lab3_q3.sql         haskque12.hs              haskque7                   Music                      some.txt
assign_5                             Desktop                  haskque12.o               haskque7.hi                myproject                 son.py
assign_5.hi                          dir1                      haskque14                  haskque7.hs                names.txt                  sos.py
assign_5.hs                          director                 haskque14.hi              haskque7.o                new                        sqlanta.txt
assign_5.o                           div.hs                   haskque14.hs              haskque8                   nth.pl                    StartExp1.class
assign_501                           Documents                haskque14.o               haskque8.hi                num.txt                   StartExp1.java
assign_501.hi                        Downloads                haskque15                  haskque8.hs                occurance.pl              state.txt
assign_501.hs                        DS                       haskque15.hi              haskque8.o                 occur.pl                  student-421159-
assign_501.o                         eclipse                  haskque15.hs              haskque9                    palindrome.sh              student-422111
assign_502                           eclipse-workspace        haskque15.o               haskque9.hi                pglfu.c                   student-422111-oops
assign_502.hi                        encap.pl                 haskque16                  haskque9.hs                pgmfu.c                   student-422111-os
assign_502.hs                        extt.c                   haskque16.hi              haskque9.o                 Pictures                   sumofsq.sh
assign_502.o                         fact1.sh                 haskque16.hs              hello                       pipe.c                     sum.pl
assign_503                           fact.pl                  haskque16.o               hello.pl                    proi                       Tdpl_assignment_4.sml
assign_503.hi                        fact.powershell          haskque18                  hg.py                       Public                      Templates
assign_503.hs                        fact.sh                  haskque18.hi              hi2.txt                    __pycache__               threadtdpl.java
assign_503.o                         fact.shell               haskque18.hs              hi3.txt                    queia.a68                 TNP_files
assign_504                           fghfc.py                 haskque18.o               hi.txt                      que1b.a68                 UNIX
assign_504.hi                       fibonaccl.sh             haskque1.hi               hjgf.py                     que2b.sml                 'Untitled Document 1'
assign_504.hs                        fibo.pl                  haskque1.hs               hjybjm.py                   que2.sml                  'Untitled Folder'
assign_504.o                         fifo.c                   haskque1.o                incerlist.pl                que3.sml                  'Untitled Folder 1'
bankersalgo.c                       file                     haskque2                  infixtopostfix.py           que3b.hs                  'Untitled Folder 2'
bitstuffing.java                    file10.txt               haskque2.hi               insertnth.pl                 quick.pl                   Videos
BitStuffing.java                    'File System'            haskque2.o                insertzero.pl                removenth.pl              wait.c
bst22.py                             fork.c                   haskque2.hs               jhb.py                      reverse.pl                 week-4q-1.sql
bst234.py                            ForwardingTableGenerator.class haskque3                  jhyru.py                    'rgtfd .py'               week4-q2.sql
capital.txt                          ForwardingTableGenerator.java haskque3.hi               kk.py                       rollno.sh                  week5-q1.sql
captail.txt                          gbnv.py                  haskque3.hs               kl.py                       roundrobin.c              while.py

student@ai-HP-ProDesk-600-G4-MT:~$ cd student-422111
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ls
anstrongnumber.c      deletenodebyiten.c      'doublyll.c\'      findcycle_1.c      inertionsort.c      sumofdigits.c
a.out                  evalutatepostfix.c      evenorodd.c        hashtable.c        infixtopostfix.c    swapwithouthtemp.c
assignment-2-422111   diaplay.c                evenorodd.c        hello.c            insertusingpos.c    swapwithtemp.c
circularll.c          doublyll.c               factorial.c         index.html          selectionsort.c      traverse.c

student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc hello.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
Hello, world!
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc evenorodd.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
enter an integer:10
the number 10 is evenstudent@ai-HP-ProDesk-600-G4-MT:~/student-422111$
```



The screenshot shows a terminal window with a file explorer view. The terminal title is "student@ai-HP-ProDesk-600-G4-MT: ~". The file explorer shows a directory with the following files and folders:

- assign_501.hs, assign_501.o, assign_502, assign_502.hs, assign_502.o, assign_503, assign_503.hs, assign_503.o, assign_504, assign_504.hs, assign_504.o, bankersalgo.c, bitstuffing.java, BitStuffing.java, bst22.py, bst234.py, capital.txt, captall.txt
- DS, eclipse, eclipse-workspace, encap.pl, exit.c, fact1.sh, fact.pl, fact.powershell, fact.sh, fact.shell, fghfc.py, fibonacci.sh, fibo.pl, fifo.c, file, file10.txt, 'File System', ForwardingTableGenerator.class, ForwardingTableGenerator.java, gbnv.py
- haskque15.hi, haskque15.hs, haskque15.o, haskque16, haskque16.hi, haskque16.hs, haskque16.o, haskque18, haskque18.hi, haskque18.hs, haskque18.o, haskque19, haskque19.hi, haskque19.o, haskque2, haskque2.hi, haskque2.hs, haskque2.o, haskque3, haskque3.hi, haskque3.hs
- haskque8.o, haskque9, haskque9.hi, haskque9.hs, haskque9.o, hello, hello.pl, hg.py, hi2.txt, hi3.txt, hi.txt, hjgf.py, hjbjn.py, incrlst.pl, infxtopostfix.py, insertnth.pl, insertzero.pl, jhb.py, jhyru.py, kk.py, kl.py
- occur.pl, palindrome.sh, pglfu.c, pgmfu.c, Pictures, pipe.c, proi, Public, __pycache__, que1a.a68, que1b.a68, que2b.sml, que2.sml, que2.smo, que3b.hs, quick.pl, removeventh.pl, reverse.pl, 'rgtfd .py', rollno.sh, roundrobin.c
- student-421159-, student-422111, student-422111-oops, student-422111-os, sumofsq.sh, sum.pl, Tdpl_assignment_4.sml, Templates, threadtdpl.java, TNP_files, UNIX, 'Untitled Document 1', 'Untitled Folder 1', 'Untitled Folder 2', Videos, wait.c, week-4q-1.sql, week4-q2.sql, week5-q1.sql, while.py
- findcycle_1.c, hashtable.c, hello.c, index.html, inertionsort.c, infixtopostfix.c, insertusingpos.c, selectionsort.c, sumofdigits.c, swapwithouttemp.c, swapwithtemp.c, traverse.c

The terminal output shows the following commands and results:

```
student@ai-HP-ProDesk-600-G4-MT:~$ cd student-422111
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ls
amstrongnumber.c  deletenodebyiten.c  'doublyll.c'  findcycle_1.c  inertionsort.c  sumofdigits.c
a.out             deletenode.c        evaluatepostfix.c  hashtable.c    infixtopostfix.c  swapwithouttemp.c
assignment-2-422111  diaplay.c          evenorodd.c      hello.c        insertusingpos.c  swapwithtemp.c
circularll.c       doublyll.c          factorial.c      index.html     selectionsort.c   traverse.c

student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc hello.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
Hello, world!

student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc evenorodd.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
enter an integer:10
the number 10 is evenstudent@ai-HP-ProDesk-600-G4-MT:~/student-422111$ gcc amstrongnumber.c
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$ ./a.out
2
4
6
7
32
45
753
student@ai-HP-ProDesk-600-G4-MT:~/student-422111$
```

2. Create a project under CVS/git repository and record multiple versions/branches and practice merging of branches (with a batch of 2 members) using gitbash commands and upload all your previous lab tasks to this repository .

Code:

```
Activities Terminal Apr 3 16:54 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/UNIX

student@ai-HP-ProDesk-600-G4-MT:~$ cd Desktop
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ ls
522132.py BitStuffing.java UNIX
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cd UNIX
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git checkout -b "branch422148"
Switched to a new branch 'branch422148'
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git status
On branch branch422148

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Assignment2/
    Assignment3/
    Assignment4/

nothing added to commit but untracked files present (use "git add" to track)
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git add .
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git commit -m "Added 422148 files"
[branch422148 (root-commit) e9c3c87] Added 422148 files
12 files changed, 429 insertions(+)
create mode 100644 Assignment2/awk.sh
create mode 100644 Assignment2/awk.txt
create mode 100644 Assignment2/cpio.sh
create mode 100644 Assignment2/cpio_out.txt
create mode 100644 Assignment2/sed.sh
create mode 100644 Assignment2/sed.txt
create mode 100644 Assignment2/tar.sh
create mode 100644 Assignment2/tar_out.txt
create mode 100644 Assignment3/Build_And_Run.sh
create mode 100644 Assignment3/NQueens2.txt
create mode 100644 Assignment3/unix.jpg
create mode 100644 Assignment4/UNIX ASSIGNMENT4.pdf
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git push origin branch422148
Username for 'https://github.com': ^C
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git remote -v
origin https://github.com/G-JOSHUA-STEPHEN/UNIX.git (fetch)
origin https://github.com/G-JOSHUA-STEPHEN/UNIX.git (push)
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git remote set-url https://gho_Fxh0FFG7kuN6VxR4HS7CBu9adsHB6o1NbeuF@github.com/G-JOSHUA-STEPHEN/UNIX
```

```
Activities Terminal Apr 3 16:54 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/UNIX

create mode 100644 Assignment3/unix.jpg
create mode 100644 Assignment4/UNIX ASSIGNMENT4.pdf
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git push origin branch422148
Username for 'https://github.com': ^C
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git remote -v
origin https://github.com/G-JOSHUA-STEPHEN/UNIX.git (fetch)
origin https://github.com/G-JOSHUA-STEPHEN/UNIX.git (push)
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git remote set-url https://ghp_EXb0FEGZkuN6VxR4HS7CBu9qdsHB6q1NbeuF@github.com/G-JOSHUA-STEPHEN/UNIX.git/
usage: git remote set-url [--push] <name> <newurl> [<oldurl>]
or: git remote set-url --add <name> <newurl>
or: git remote set-url --delete <name> <url>

--push      manipulate push URLs
--add       add URL
--delete     delete URLs

student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git remote set-url origin https://ghp_EXb0FEGZkuN6VxR4HS7CBu9qdsHB6q1NbeuF@github.com/G-JOSHUA-STEPHEN/UNIX.git/
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git push origin branch422148
Enumerating objects: 17, done.
Counting objects: 100% (17/17), done.
Delta compression using up to 12 threads
Compressing objects: 100% (16/16), done.
Writing objects: 100% (17/17), 1.28 MiB | 541.00 KiB/s, done.
Total 17 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/G-JOSHUA-STEPHEN/UNIX.git/
 * [new branch]      branch422148 -> branch422148
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git add .
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git commit -m "Added 422148 Assignment1"
[branch422148 6720056] Added 422148 Assignment1
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 First422180.pdf
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$ git push origin branch422148
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 406.43 KiB | 25.40 MiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/G-JOSHUA-STEPHEN/UNIX.git/
 e9c3c87..6720056 branch422148 -> branch422148
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/UNIX$
```