UIET MDU
Rohtak

Practical File
Operating System

Submitted To:

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CSE-II (4thSem.)

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PROGRAM 1

History of UNIX

UNIX is a family of multitasking, multiuser computer operating systems that derive from the original AT&T UNIX. It was originally meant to be a convenient platform for programmers developing software to be run on it and other systems but later the system grew larger as a potential operating system and spread among non-programmers as well.

It has its roots in 1960s when MIT, GE, AT&T Labs combined their ideas to develop MULTICS (Multiplexed Information and Computing Services), a timesharing operating system. But due to size and complexity of MULTICS, individual researchers at Bell Labs started withdrawing from the project. Ken Thompson, Dennis Ritchie, Douglas McIlroy, and Joe Ossanna worked together to develop a new operating system named as UNICS(Uniplexed Information and Computing Service). The operating system was originally written in assembly language, but in 1973, Version 4 Unix was rewritten in C. In 1975, the first source license for *UNIX* was sold to Donald B. Gillies at the University of Illinois at Urbana–Champaign Department of Computer Science (UIUC). Later University of California at Berkeley(UCB) filled the gaps that existed in AT&T'x UNIX and released their own version of UNIX named BSD-UNIX. During the late 1970s and early 1980s, the influence of Unix in academic circles led to large-scale adoption of Unix (BSD and System V) by commercial startups, which in turn led to Unix fragmenting into multiple, similar but often slightly mutually-incompatible systems including HP-UX, SunOS/Solaris, AIX, and Xenix. In the late 1980s, AT&T Unix System Laboratories and Sun Microsystems developed System V Release 4 (SVR4), which was subsequently adopted by many commercial Unix vendors. Shortly after the release of UNIX System V, AT&T sold all its rights to UNIX to Novell. Novell developed its own version, UnixWare, merging its NetWare with UNIX System V Release 4. In 1993, Novell decided to transfer the UNIX trademark and certification rights to X/Open consortium which later merged with OSF creating the Open Group.

PROGRAM 2

Some UNIX Commands

- **ls** : lists files in current directory
- **cd** : change directory
- **mkdir** : make a directory
- **rmdir** : remove directory (must be empty)
- **cp** : copy file
- **rm** : remove or delete file
- **mv** : move or rename files
- **man** : online manual (help) about command
- **chmod** <opt> <file>: change file permissions
- **whoam**i : displays the username of the current user
- **history** : lists commands you have done recently
- **date** : print out current date
- **cal <mo> <yr>** : prints calendar
- **logout** : to quit a UNIX shell

```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ls
calc.sh  count.sh  even.sh  fibo.sh  greatest.sh  table.sh
```

```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ whoami
Payal
```

```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ date
Tue Jul 20 02:15:58 IST 2021
```

```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ pwd
/d/os lab file
```

```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ mv fibo.sh fibonacci.sh

Payal@PAYAL-PC MINGW32 /d/os lab file
$ ls
calc.sh  count.sh  even.sh  fibonacci.sh  greatest.sh  table.sh
```

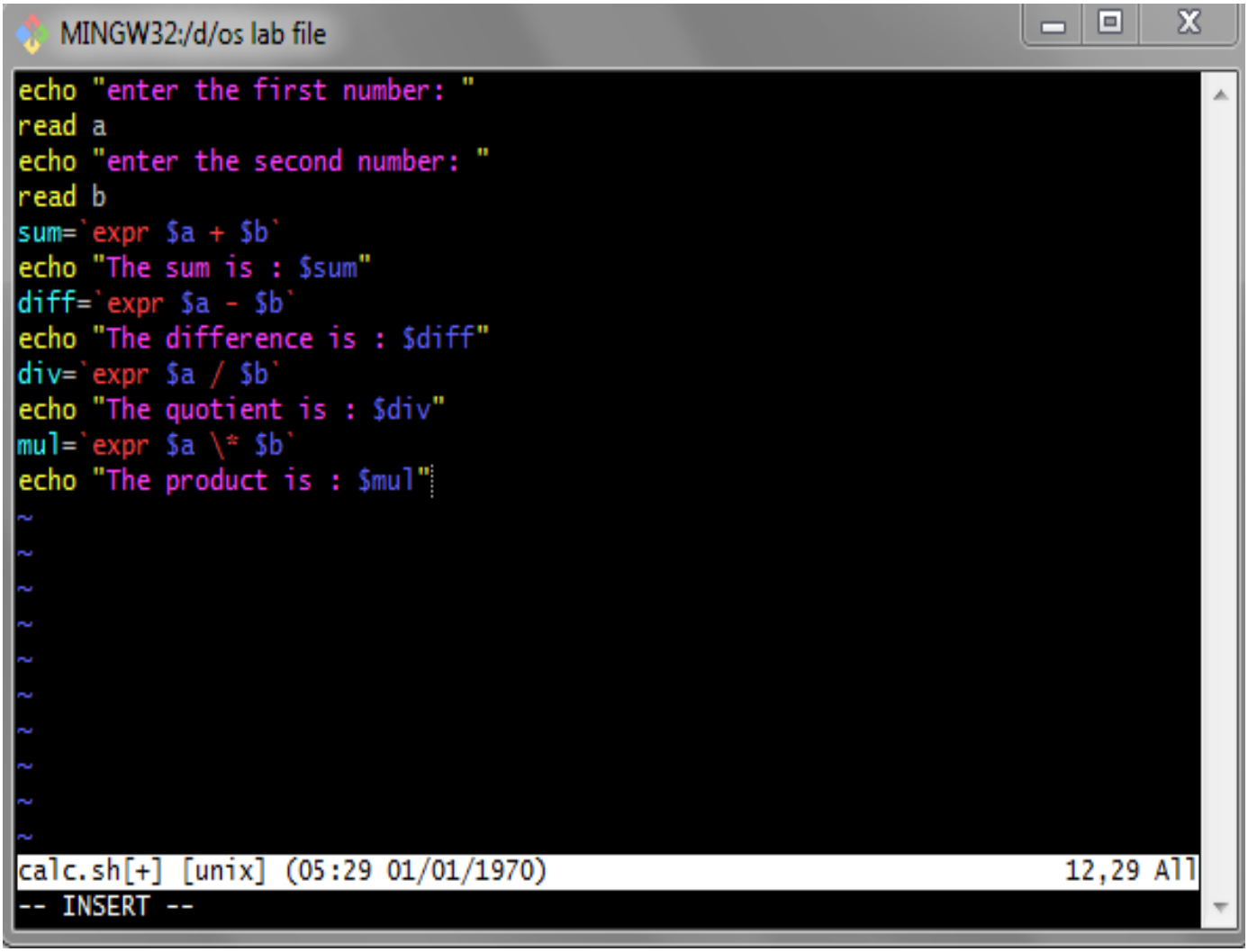
```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ls
calc.sh  count.sh  display  even.sh  fibonacci.sh  greatest.sh  table.sh

Payal@PAYAL-PC MINGW32 /d/os lab file
$ rm display

Payal@PAYAL-PC MINGW32 /d/os lab file
$ ls
calc.sh  count.sh  even.sh  fibonacci.sh  greatest.sh  table.sh
```

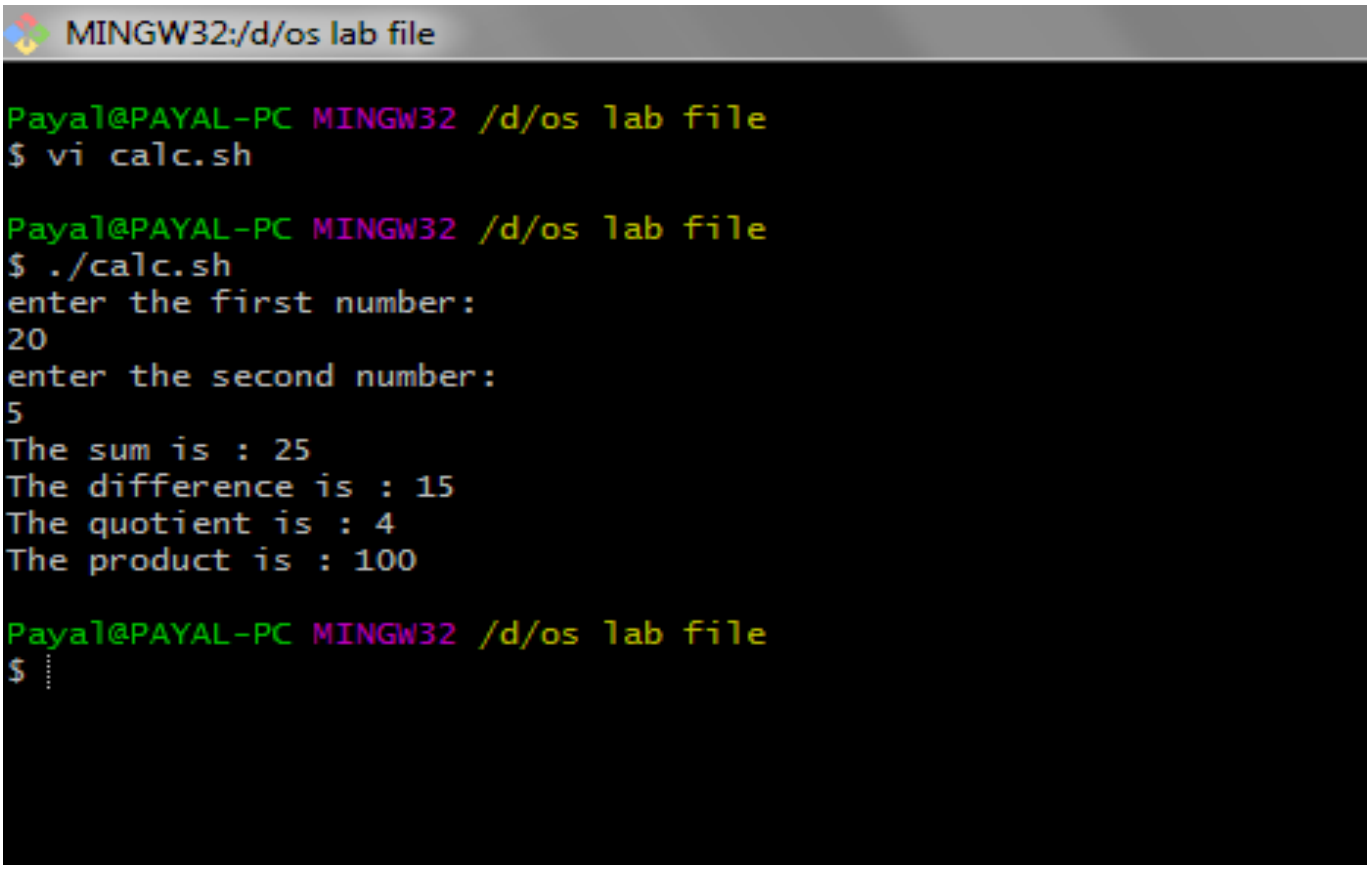
```
Payal@PAYAL-PC MINGW32 /d/os lab file
$ history
```

```
317  vi calc.sh
318  ./calc.sh
319  vi greatest.sh
320  ./greatest.sh
321  vi fibo.sh
322  ./fibo.sh
323  vi count.sh
324  ./count.sh
325  vi table.sh
326  ./table.sh
327  vi even.sh
328  ./even.sh
329  ./even.sh
330  ls
331  whoami
332  date
333  cal 7 2021
334  cal 7 2020
335  ls
336  ls
337  whoami
338  date
339  pwd
340  mv fibo.sh fibonacci.sh
341  ls
342  cat > display
343  ls
344  ./display
345  display
346  ls
347  rm display
348  ls
349  history
```

PROGRAM 3

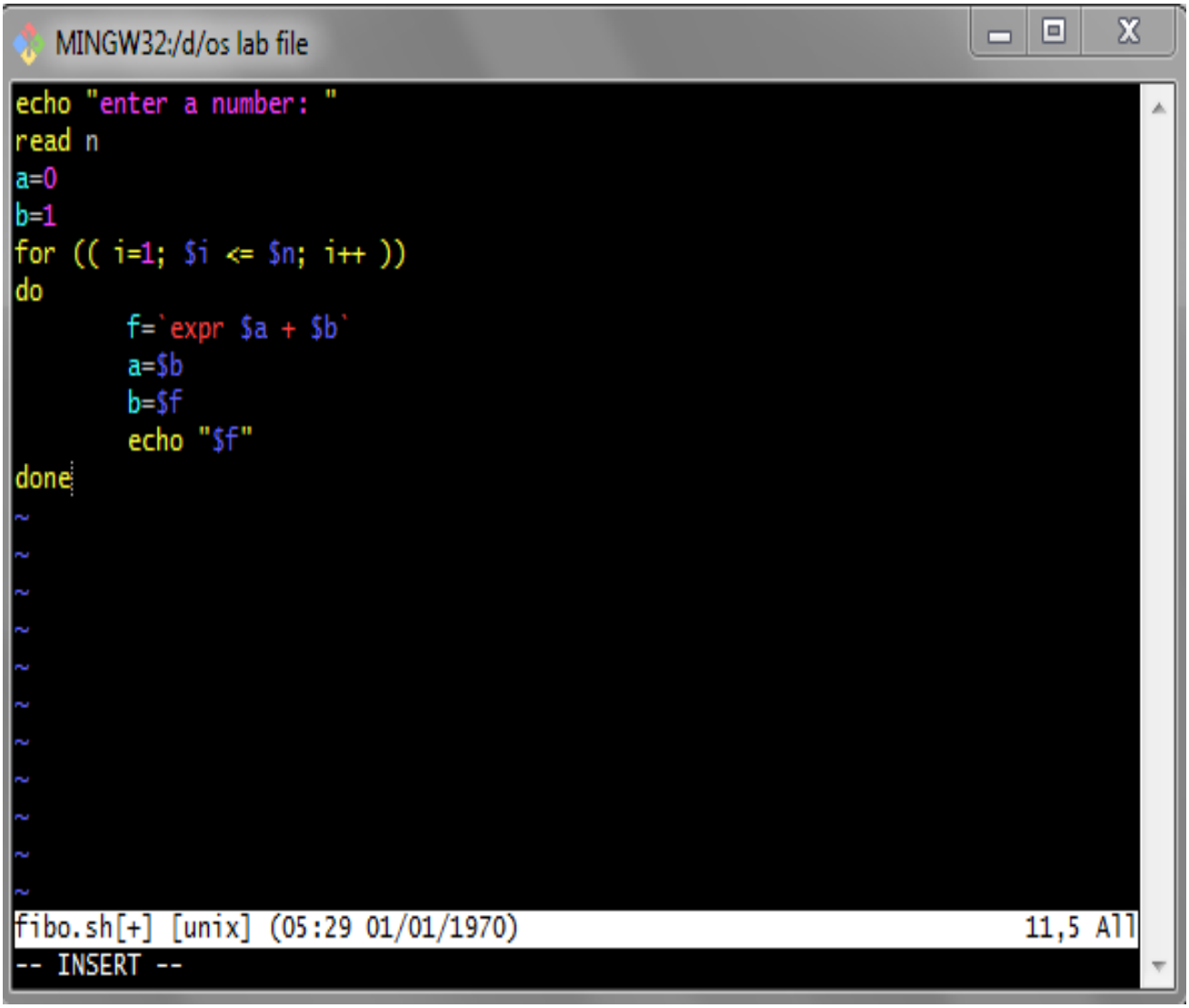
Arithmetic operations

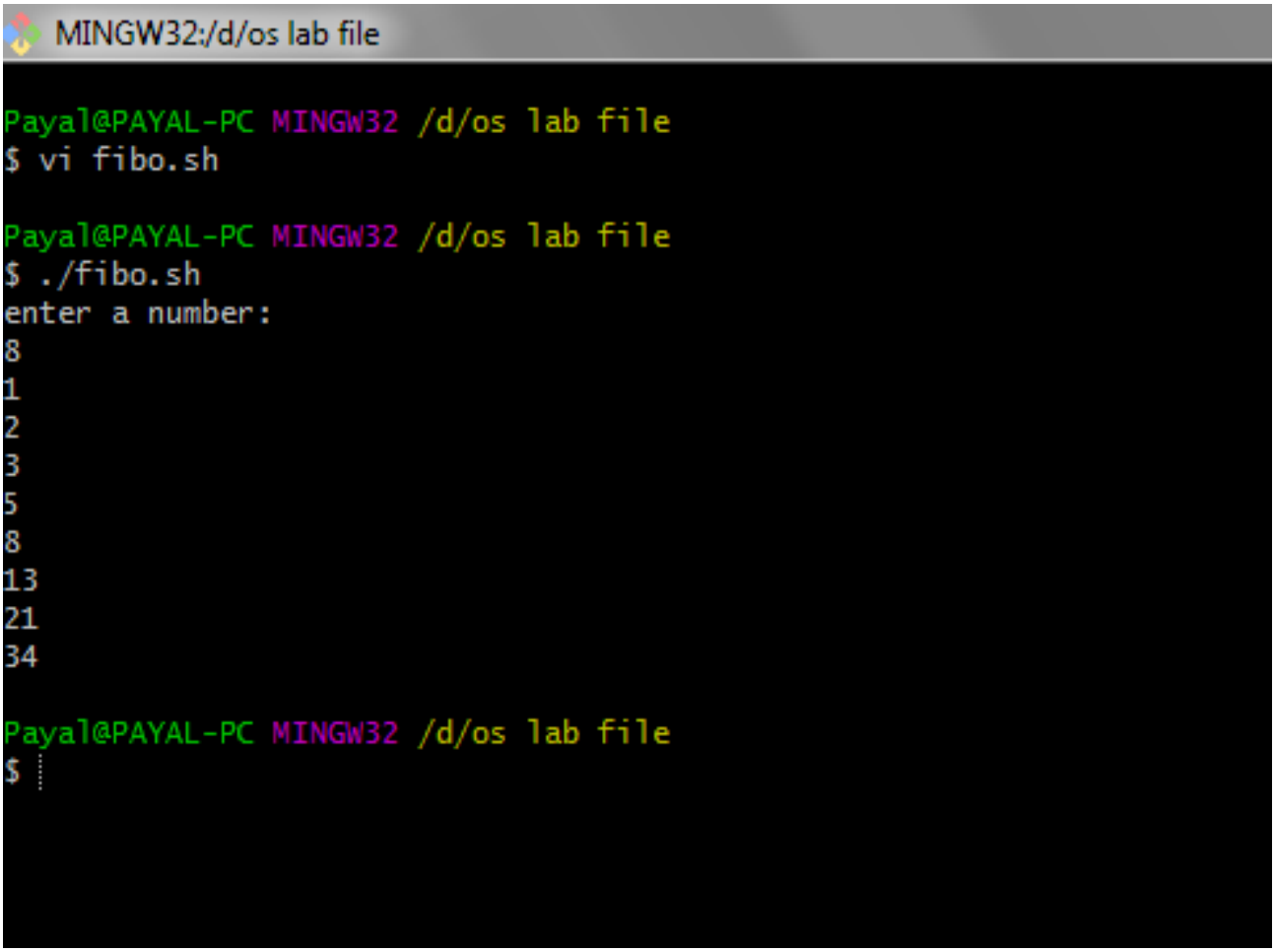



MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ vi calc.sh
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./calc.sh
enter the first number:
20
enter the second number:
5
The sum is : 25
The difference is : 15
The quotient is : 4
The product is : 100
Payal@PAYAL-PC MINGW32 /d/os lab file
$

PROGRAM 4

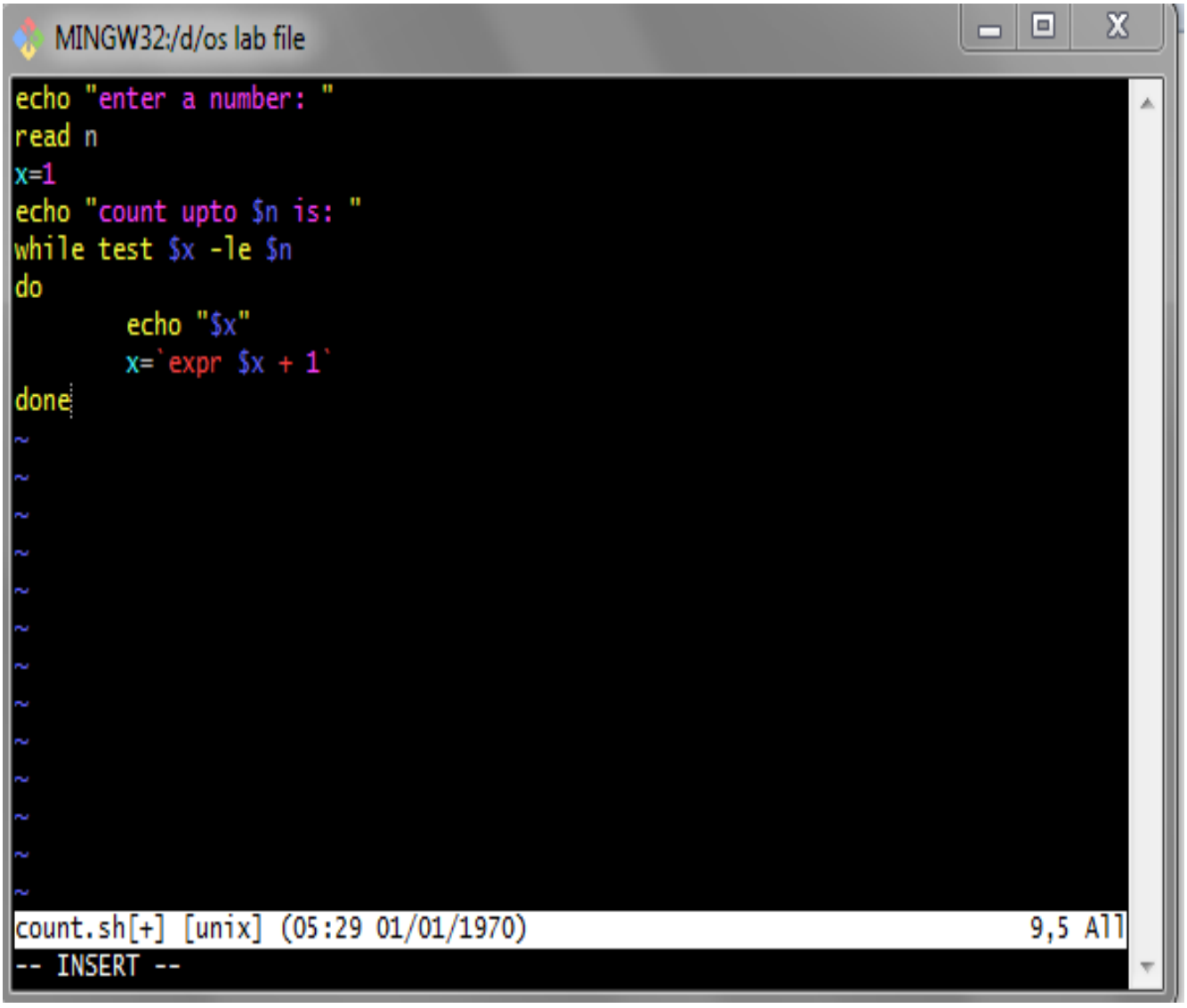
Fibonacci Series

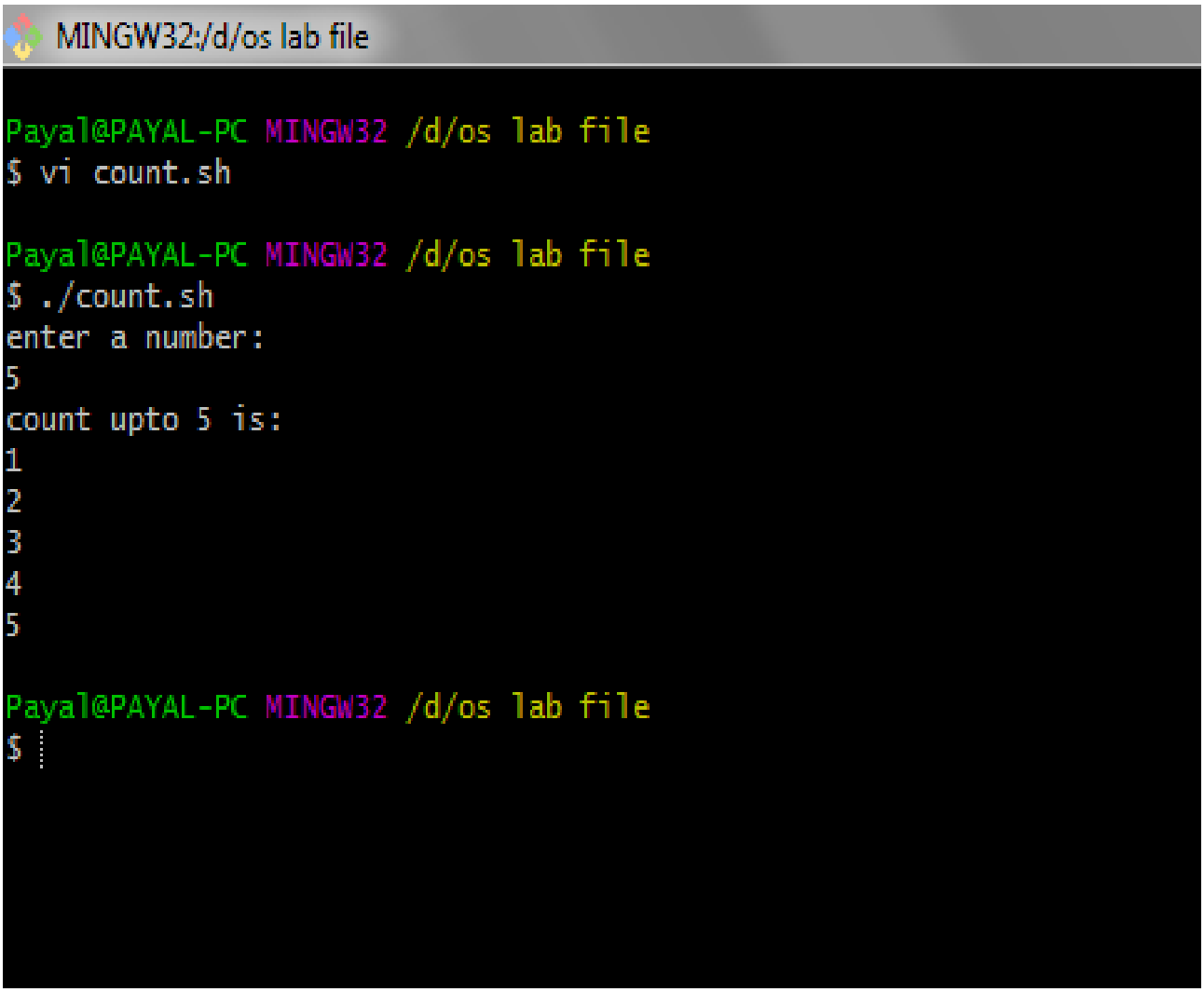



MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ vi fibo.sh
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./fibo.sh
enter a number:
8
1
2
3
5
8
13
21
34
Payal@PAYAL-PC MINGW32 /d/os lab file
$

PROGRAM 5

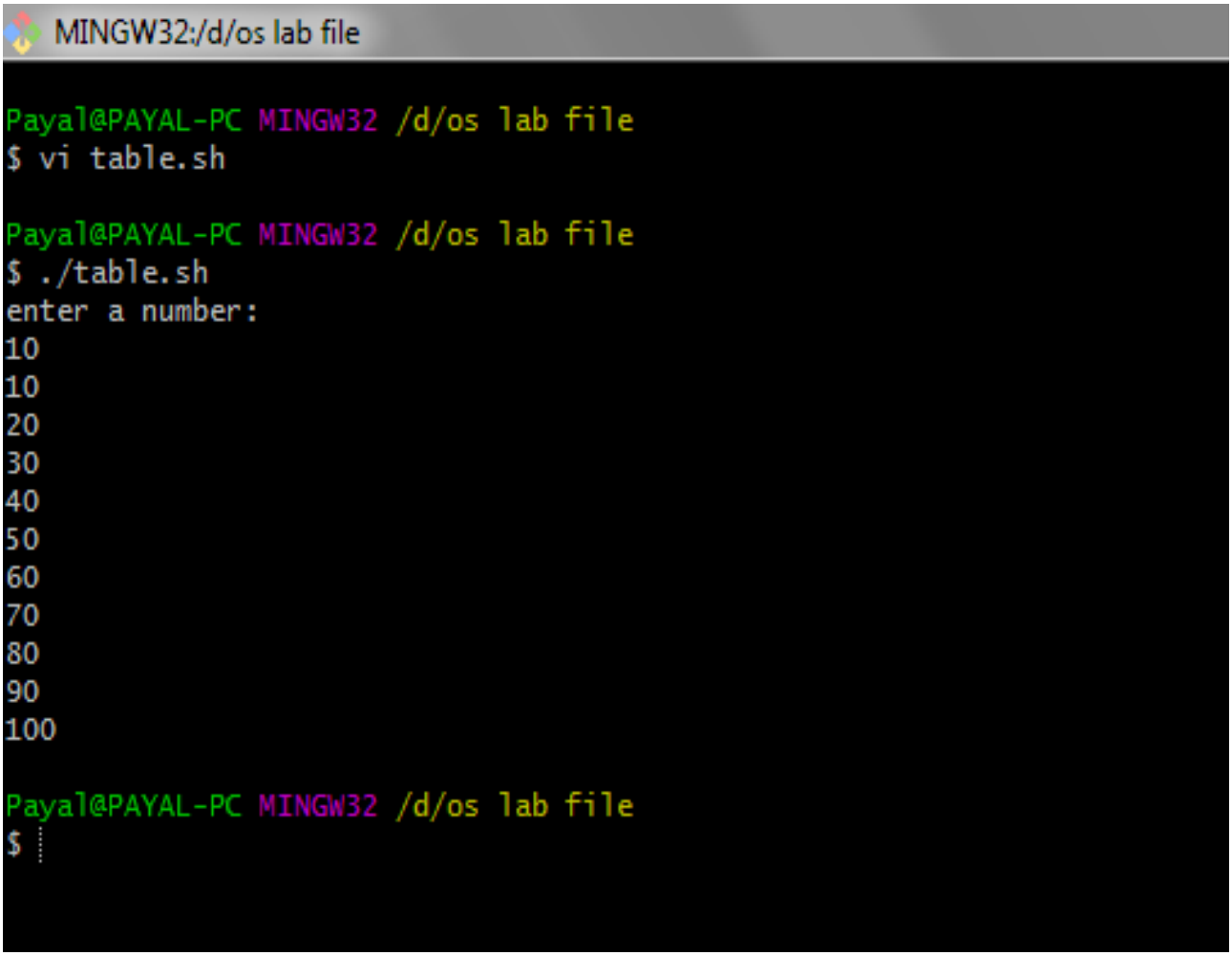
Print counting upto a number




MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ vi count.sh
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./count.sh
enter a number:
5
count upto 5 is:
1
2
3
4
5
Payal@PAYAL-PC MINGW32 /d/os lab file
$

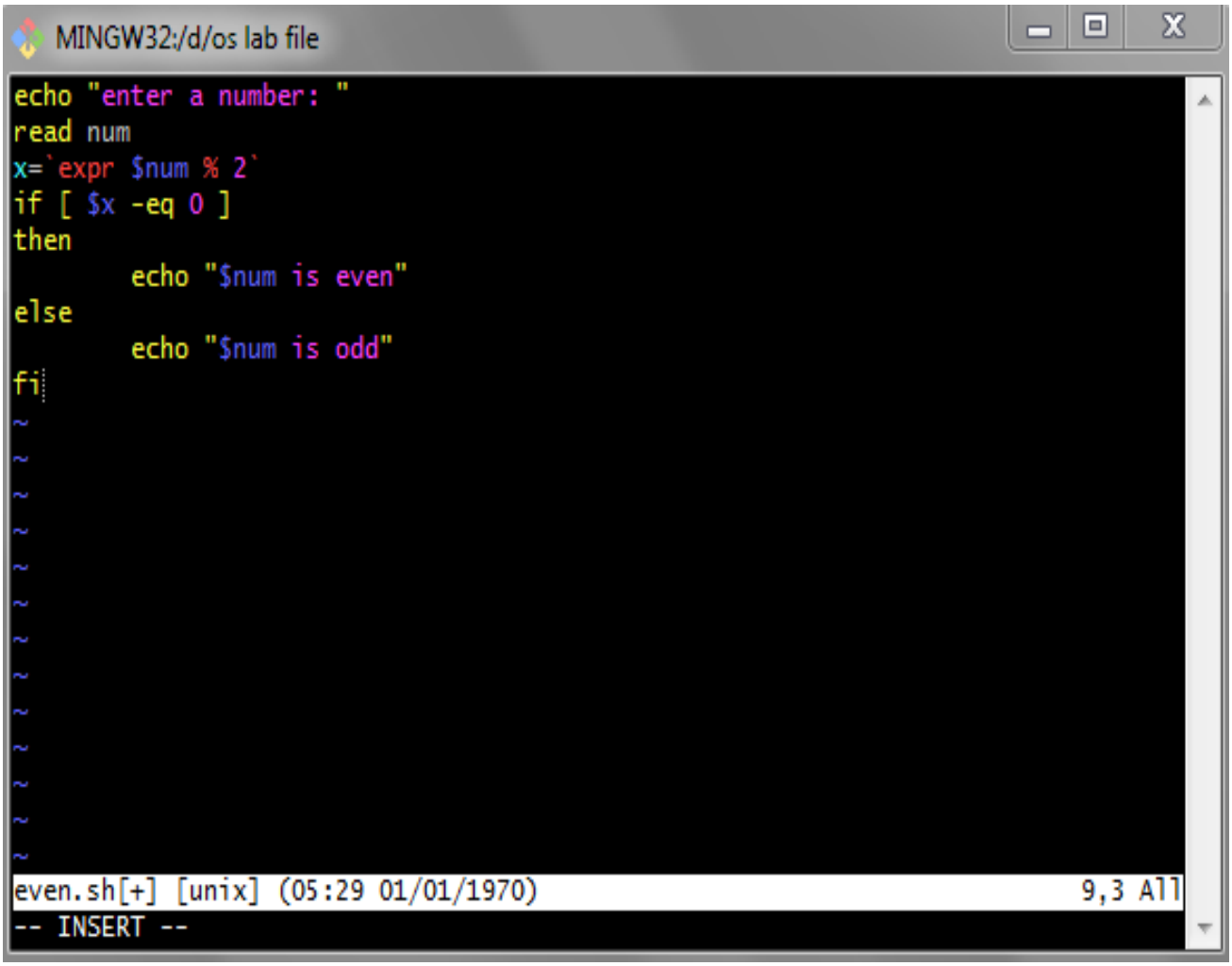
PROGRAM 6

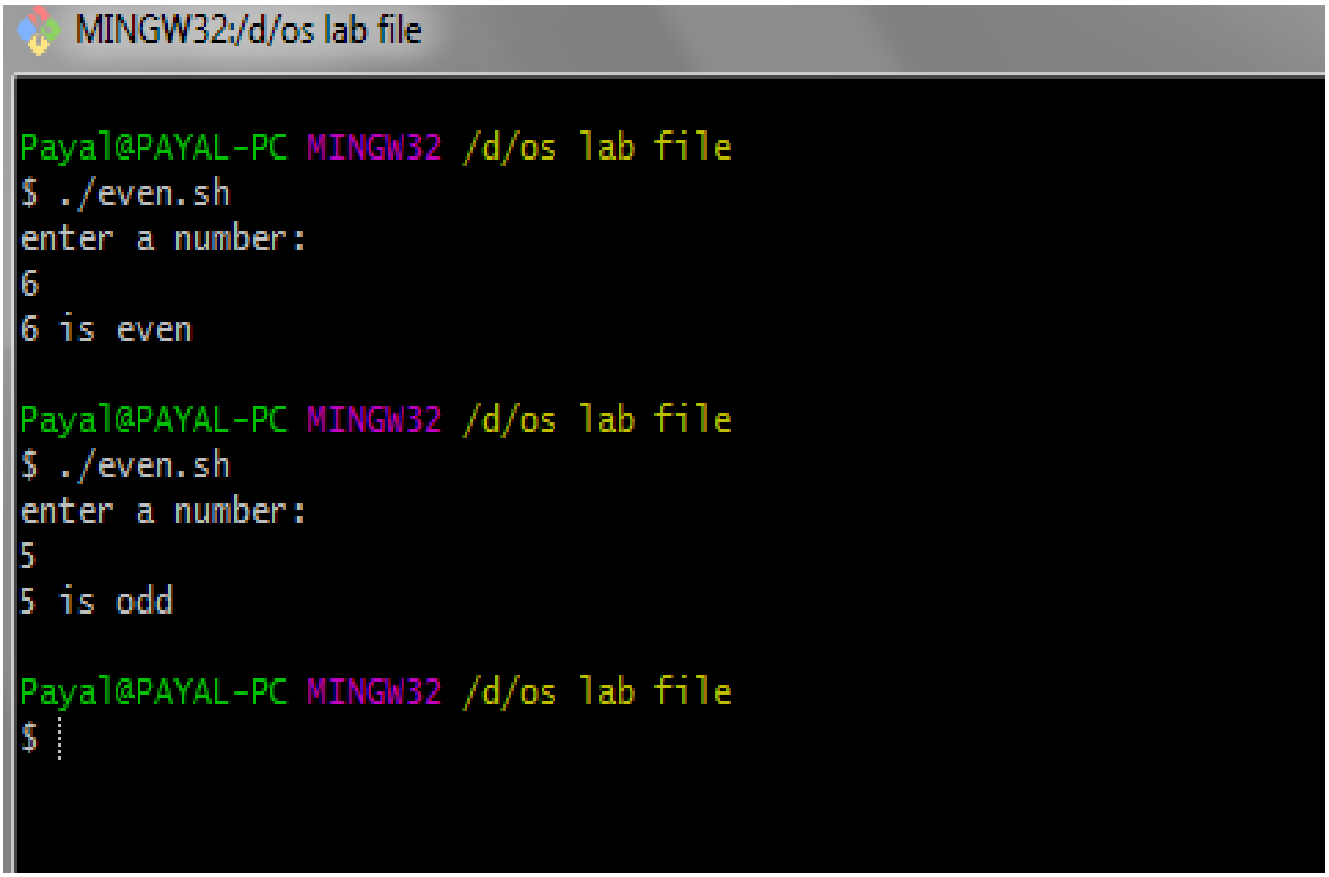
Table of a number


MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ vi table.sh
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./table.sh
enter a number:
10
10
20
30
40
50
60
70
80
90
100
Payal@PAYAL-PC MINGW32 /d/os lab file
$

PROGRAM 7

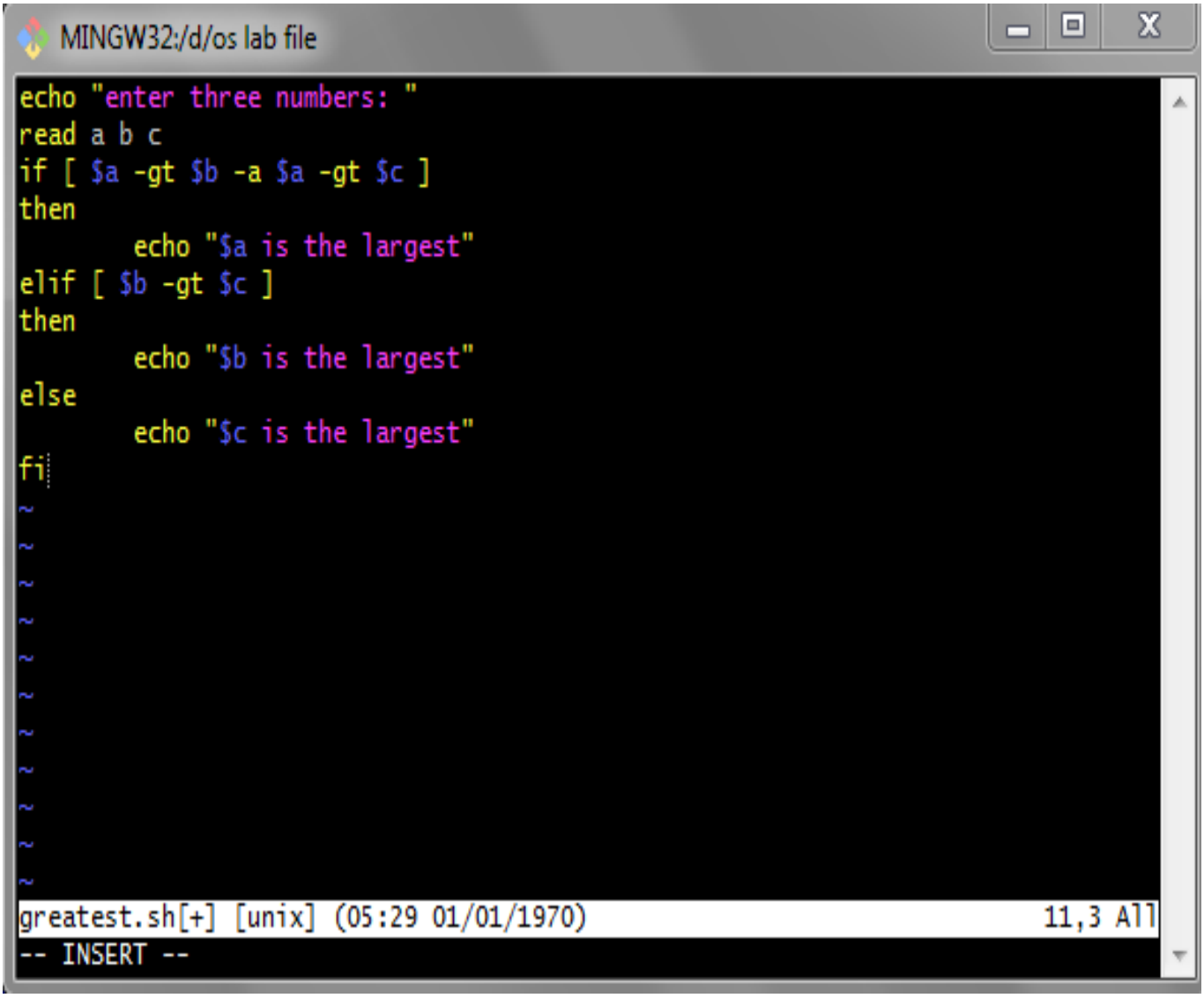
Even or Odd number

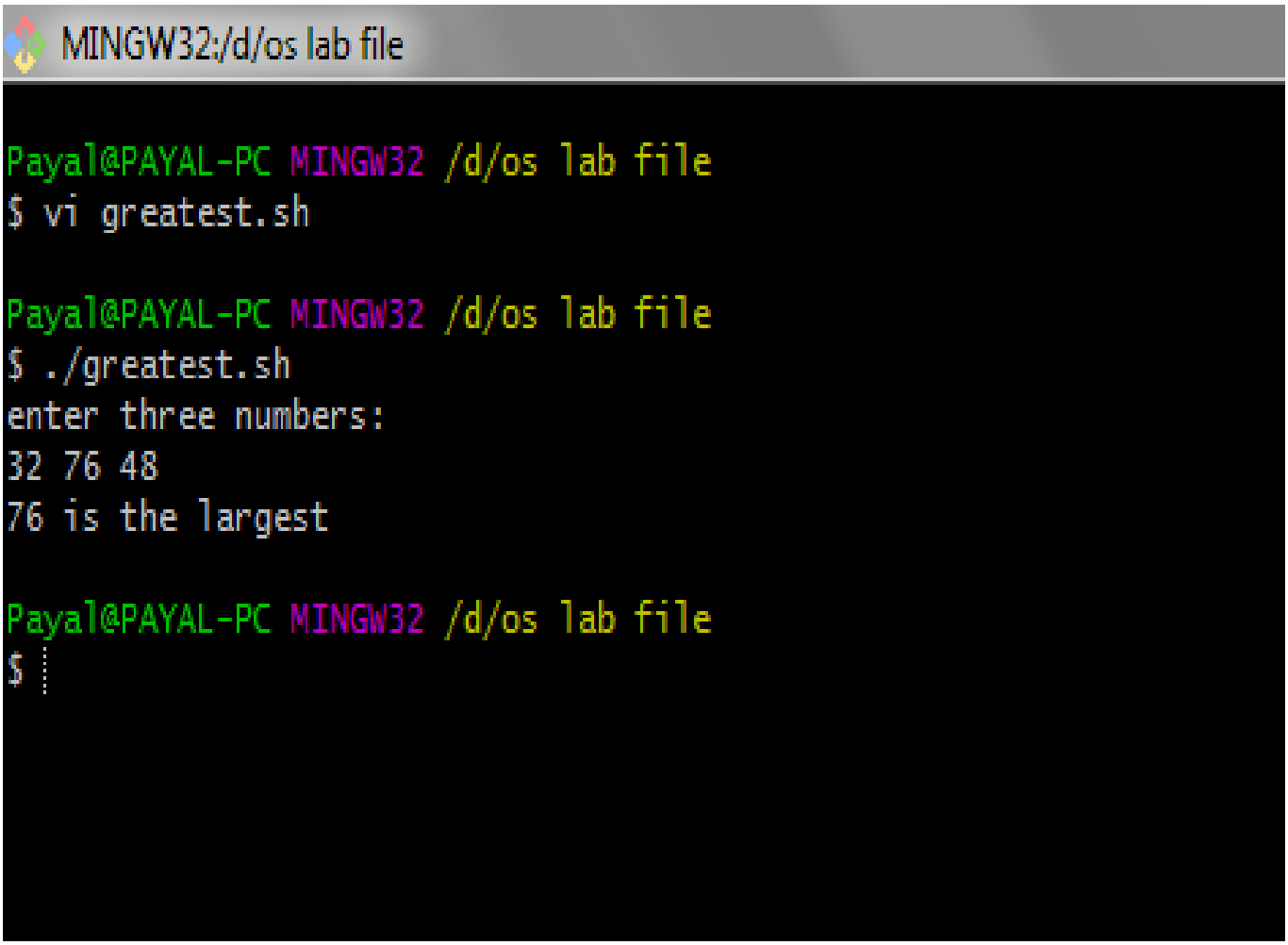



MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./even.sh
enter a number:
6
6 is even
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./even.sh
enter a number:
5
5 is odd
Payal@PAYAL-PC MINGW32 /d/os lab file
$

PROGRAM 8

Greatest among 3 numbers




MINGW32:/d/os lab file
Payal@PAYAL-PC MINGW32 /d/os lab file
$ vi greatest.sh
Payal@PAYAL-PC MINGW32 /d/os lab file
$ ./greatest.sh
enter three numbers:
32 76 48
76 is the largest
Payal@PAYAL-PC MINGW32 /d/os lab file
$