Ho Chi Minh City University of Technology

Faculty of Computer Science and Engineering

OPERATING SYSTEMS (CO2018)

Lab 1

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Mục lục

1 Exercise 3.6

- Demo 1: 5 basic calculations

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> 2 + 5
7
>> ANS + 3
10
>> 2 - 4
-2
>> 5 * 2
10
>> 4 / 3
1.33
>> 5 % 2
1
>>
```

- Demo 2: ANS variable:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> ANS + 3
3
>> ANS - 100
-97
>> ANS + 1000
903
>> ANS / 3
301.00
>> ANS % 2
1.00
>> ANS * 5
5.00
>>
```

- Demo 3: History of the last 5 successful calculations:

```
>> HIST
ANS * 5 = 5.00
ANS % 2 = 1.00
ANS / 3 = 301.00
ANS + 1000 = 903
ANS - 100 = -97
>> 4 + 5
9
>> 9 - 100
-91
>> 7 / 2
3.50
>> HIST
7 / 2 = 3.50
9 - 100 = -91
4 + 5 = 9
ANS * 5 = 5.00
ANS % 2 = 1.00
>>
```

- Demo 4: Non-integer (decimal) results:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> 1.2 * 2.3
2.76
>> 7 / 2
3.50
>> 9 / 5
1.80
>> ANS * 1.25
2.25
>> 1 / 3
.33
>> 10 / 3
3.33
>>
```

- Demo 5: Invalid operations:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> 1 / 0
MATH ERROR
>> 1 % 0
MATH ERROR
>> 5 / 0
MATH ERROR
>> 100 % 0
MATH ERROR
>>
```

- Demo 6: Incorrect inputs:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> 1 @ 2
SYNTAX ERROR
>> 1 & 5
SYNTAX ERROR
>> 10 # 3
SYNTAX ERROR
>> 1 h 3
SYNTAX ERROR
>> 1 2 3
SYNTAX ERROR
>>
```

- Demo 7: Exit the program :

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc.sh
>> 1 @ 2
SYNTAX ERROR
>> 1 & 5
SYNTAX ERROR
>> 10 # 3
SYNTAX ERROR
>> 1 h 3
SYNTAX ERROR
>> 1 2 3
SYNTAX ERROR
>> 4 + 5
9
>> 6 * 7
42
>> EXIT
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$
```

2 Exercise 5.3

2.1 Makefile demo:

- Demo 1: make:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ make
gcc -c calc.c
gcc calc.o -o calc
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ make all
make: Nothing to be done for 'all'.
```

- Demo 2: make clean:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ make clean
rm -f *.o calc
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ |
```

- Demo 3: make all:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ make all
gcc -c calc.c
gcc calc.o -o calc
```

2.2 Calc.c demo:

- Demo 1: 5 basic calculations

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> 3 + 4
7.00
>> 7 - 8
-1.00
>> 6 / 2
3.00
>> 8 % 3
2.00
>> 9 * 2
18.00
>> []
```

- Demo 2: ANS variable:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> ANS - 2
-2.00
>> ANS + 5
3.00
>> ANS / 3
1.00
>> ANS * 4
4.00
>> ANS % 2
0.00
>> []
```

- Demo 3: Non-integer (decimal) results:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> 7 / 2
3.50
>> 9 / 3
3.00
>> 6 / 4
1.50
>> 1 / 3
0.33
>> 10 / 3
3.33
```

- Demo 4: Invalid operations:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> 1 / 0
MATH ERROR
>> 8 % 0
MATH ERROR
>> 5 / 0
MATH ERROR
>>
```

- Demo 5: Incorrect inputs:

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> 1 @ 2
SYNTAX ERROR
>> 1 2 3
SYNTAX ERROR
>> 1 0 2
SYNTAX ERROR
>> 5 = 6
SYNTAX ERROR
>> 7 & &
SYNTAX ERROR
>>
```

- Demo 6: Exit the program :

```
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$ ./calc
>> 1 / 0
MATH ERROR
>> 8 % 0
MATH ERROR
>> 5 / 0
MATH ERROR
>> EXIT
grassnhi@DESKTOP-LAPTOP:/mnt/e/Coding/OperatingSystem/lab/lab1$
```