



**University of  
Batangas**  
LIPA CITY  
COLLEGE OF ENGINEERING  
& ARCHITECTURE

**UNIVERSITY OF BATANGAS – LIPA CAMPUS  
COLLEGE OF ENGINEERING AND ARCHITECTURE  
COMPUTER ENGINEERING**

Logic Gate Familiarization, Truth Tables, and Boolean Algebra

**Experiment #1**

Hardware Description Language

NAME: MEDEL, PAMELA AMOR V.

STUDENT NUMBER: 2120646

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ENGR. CHARLES RAY JUANILLAS

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PROFESSOR



## Output Screenshot:

```
Command Prompt
Microsoft Windows [Version 10.0.19045.2364]
(c) Microsoft Corporation. All rights reserved.

C:\Users\pamvm>cd..

C:\Users>cd..

C:\>dir
Volume in drive C has no label.
Volume Serial Number is D865-B202

Directory of C:\

11/07/2022  03:45 pm  <DIR>          $WINDOWS.~BT
25/09/2022  12:26 pm                30 AVScanner.ini
20/01/2022  01:08 pm  <DIR>          Brother
03/07/2022  06:13 pm  <DIR>          ESD
19/01/2022  11:27 pm  <DIR>          Intel
18/12/2022  06:27 pm  <DIR>          iverilog
07/12/2019  05:14 pm  <DIR>          Perflogs
07/11/2022  03:29 pm  <DIR>          Program Files
18/12/2022  11:13 am  <DIR>          Program Files (x86)
16/05/2022  11:05 am  <DIR>          Users
15/12/2022  12:50 pm  <DIR>          Windows
               1 File(s)                30 bytes
              10 Dir(s)  134,522,863,616 bytes free

C:\>cd iverilog

Command Prompt
C:\iverilog>dir
Volume in drive C has no label.
Volume Serial Number is D865-B202

Directory of C:\iverilog

18/12/2022  06:27 pm  <DIR>          .
18/12/2022  06:27 pm  <DIR>          ..
19/09/2022  08:02 am  <DIR>          bin
18/12/2022  06:07 pm  <DIR>          exercises
09/10/2022  09:43 pm  <DIR>          exp
18/12/2022  06:28 pm  <DIR>          Experiments
19/09/2022  08:02 am  <DIR>          gtkwave
19/09/2022  08:02 am                52 Icarus Verilog.url
25/04/2004  04:52 pm                18,902 icarus.ico
19/09/2022  08:02 am  <DIR>          include
19/09/2022  08:02 am  <DIR>          lib
09/10/2022  08:51 pm  <DIR>          samples
19/09/2022  08:02 am  <DIR>          share
19/09/2022  08:02 am                184,689 unins000.dat
19/09/2022  08:01 am                3,153,063 unins000.exe
               4 File(s)                3,356,706 bytes
              11 Dir(s)  134,522,863,616 bytes free

C:\iverilog>cd Experiments

C:\iverilog\Experiments>dir
Volume in drive C has no label.
Volume Serial Number is D865-B202

Directory of C:\iverilog\Experiments

18/12/2022  06:28 pm  <DIR>          .
18/12/2022  06:28 pm  <DIR>          ..
18/12/2022  06:28 pm                948 Experiment1.v
               1 File(s)                948 bytes
               2 Dir(s)  134,522,306,560 bytes free
```



```
Command Prompt
C:\iverilog>cd Experiments
C:\iverilog\Experiments>dir
Volume in drive C has no label.
Volume Serial Number is D865-B202

Directory of C:\iverilog\Experiments

18/12/2022  06:28 pm  <DIR>          .
18/12/2022  06:28 pm  <DIR>          ..
18/12/2022  06:28 pm                948 Experiment1.v
               1 File(s)                948 bytes
               2 Dir(s) 134,522,306,560 bytes free

C:\iverilog\Experiments>iverilog -o test Experiment1.v
C:\iverilog\Experiments>vvp test
VCD info: dumpfile LabExp1.vcd opened for output.

Part 1: NOT Gate
Input = 0, Output = 1
Input = 1, Output = 0
Input = 0, Output = 1

Part 2: AND Gate
Input1 = 0, Input2 = 0, Output = 0
Input1 = 0, Input2 = 1, Output = 0
Input1 = 1, Input2 = 0, Output = 0
Input1 = 1, Input2 = 1, Output = 1
Input1 = 0, Input2 = 0, Output = 0

Part 3: OR Gate
Input1 = 0, Input2 = 0, Output = 0
Input1 = 0, Input2 = 1, Output = 1
Input1 = 1, Input2 = 0, Output = 1
Input1 = 1, Input2 = 1, Output = 1

C:\iverilog\Experiments>
```

## GTKWave:

