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CS 113
Lab 1

Program Output:

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 1
Enter input[0 or 1]: 0

Table:
Input   Output
0       1
1       0

Output: 1
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 2
Enter total number of inputs(maximum 8): 2
Enter inputs [0 or 1]:0 1

Table:
Inputs          Output
0       0       0
1       0       0
0       1       0
1       1       1

Output: 0
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 3
Enter total number of inputs(maximum 8): 2
Enter inputs [0 or 1]:0 1

Table:
Inputs          Output
0       0       0
1       0       1
0       1       1
1       1       1

Output: 1
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 4
Enter total number of inputs(maximum 8): 2
Enter inputs [0 or 1]:0 1

Table:
Inputs          Output
0       0       1
1       0       1
0       1       1
1       1       0

Output: 1
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 5
Enter total number of inputs(maximum 8): 2
Enter inputs [0 or 1]:0 1

Table:
Inputs          Output
0       0       1
1       0       0
0       1       0
1       1       0

Output: 0
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 6
Enter two inputs [0 or 1]:0 1

Table:
Inputs          Carry   Sum
1       1       1       0
1       0       0       1
0       1       0       1
0       0       0       0

Sum: 1
Carry: 0
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 7
Enter three inputs [0 or 1]:0 1 0

Table:
Inputs                  Carry   Sum
1       1       1       1       1
1       1       0       1       0
1       0       1       1       0
1       0       0       0       1
0       1       1       1       0
0       1       0       0       1
0       0       1       0       1
0       0       0       0       0

Sum: 1
Carry: 0
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 8
Enter four inputs [0 or 1]:1 1 1 1
Enter two selectors [0 or 1]:0 1

Table:
Select          Input                           Output
0       0       0       0       0       1       1
0       1       0       0       1       0       1
1       0       0       1       0       0       1
1       1       1       0       0       0       1

Output: 1
```

```
MAIN MENU
=========
1 - NOT gate
2 - AND gate
3 - OR gate
4 - NAND gate
5 - NOR gate
6 - Half-Adder
7 - Full-Adder
8 - Multiplexer
9 - Exit
Enter your choice: 9


...Program finished with exit code 0
Press ENTER to exit console.
```