Lab06 Lecture Exercise

Look at the following VHDL code:

```
L <=    "1111"   WHEN   EN = '0'      ELSE
        "1110"   WHEN   S =  "00"     ELSE
        "1101"   WHEN   S =  "01"     ELSE
        "1011"   WHEN   S =  "10"     ELSE
        "0111" ;
```

Which frequently used digital circuit is described by this code?

Are the outputs active-high or active-low? Circle the correct answer:

active-high active-low

Is the Enable input (EN) active-high or active-low? Circle the correct answer:

active-high active-low

We will get the following code if the first two lines of the above code are swapped:

```
L <=    "1110"   WHEN   S =  "00"     ELSE
        "1111"   WHEN   EN = '0'      ELSE
        "1101"   WHEN   S =  "01"     ELSE
        "1011"   WHEN   S =  "10"     ELSE
        "0111" ;
```

Give a counterexample to show that the above two codes are not equivalent: In your example, the two codes receive the same value for EN and same value for S, but generate two different values for L. Fill in the blanks:

EN = S = First code: L = Second code: L =

Fill in the blank:

In this example, the order of WHEN ELSE lines is … Circle the correct answer:

Important Unimportant

Write an input value that generates the same output for both codes:

EN = S =

If the last 2 WHEN ELSE lines are swapped, will the meaning of the code change? Circle the correct answer:

Yes No