

Lab test solution

Problem 1

There is more than one way of doing this, in EECS3201 you will study this problem in detail. However for the purpose of this course, you can do one of two things:

At the procedural level, you can write an always block in which you will have a code like the following

```
If (a>b)
    begin
        out[0]=1;
        out[1]=0;
        out[2]=0;
    end
else if (a<b)
    begin
        out[0]=0;
        out[1]=1;
        out[2]=0;
    end
else
    begin
        out[0]=0;
        out[1]=0;
        out[2]=1;
    end
```

Or you can use a subtractor and subtract these two numbers, depending on the sign of the result, you set one of the three outputs to 1

Assuming of course that out[2:0] is the output pins.

Problem 2

Here you can add a mux to output one of the three out[2:0] using a selection (2 bits for selector of course).