

## Lab 1 Report:

### From Exercise #1:

1. Compilation report for the Rhody computer system (basic CPU):

Logic utilization (in ALMs) 2350 / 32,070 ( 7 % )  
Total block memory bits 3,227,712 / 4,065,280 ( 79 % )  
Total DSP Blocks 9 / 87 ( 10 % )

2. Compilation report for the Rhody computer system (pipelined CPU):

Logic utilization (in ALMs) 2,500 / 32,070 ( 8 % )  
Total block memory bits 3,227,712 / 4,065,280 ( 79 % )  
Total DSP Blocks 9 / 87 ( 10 % )

3. Compilation report for the Rhody computer system (pipelined CPU with BP):

Logic utilization (in ALMs) 2757 / 32,070 ( 8 % )  
Total block memory bits 3,227,712 / 4,065,280 ( 79 % )  
Total DSP Blocks 9 / 87 ( 10 % )

### From Assignments:

1. Using Rhody basic CPU (Rhody\_System\_basic.sof)

❖ Runtime of system function "circle": 3554  $\mu$ s  
❖ Runtime of system function "scircle": 317946  $\mu$ s

2. Using Rhody CPU with pipeline (Rhody\_System\_pipe.sof)

❖ Runtime of system function "circle": 3224  $\mu$ s  
❖ Runtime of system function "scircle": 294,506  $\mu$ s

3. Using Rhody CPU with pipeline and branch prediction (Rhody\_System\_pipe\_BP.sof)

❖ Runtime of system function "circle": 3139  $\mu$ s  
❖ Runtime of system function "scircle": 280510  $\mu$ s

Grade: \_\_\_\_\_

Assignment Verified by: \_\_\_\_\_