**MIS 6308**

**Fall 2017**

**Assignment 4**

1. Consider the following program. (10 points)

Precondition: x is a non-negative integer and y is an integer.

(1) Read x,y

(2) Do case

(3) Case y = 0

(4) {Result = 1

(5) Print Result}

(6) Case y > 0

(7) {counter = 1

(8) Do while (counter <= y)

(9) Result = Result\*x

(10) counter = counter + 1

(11) End Do

(12) Print Result}

(13) Case y < 0

(14) {counter = 1

(15) Repeat

(16) Result = Result\*x

(17) counter = counter + 1

(18) Until (counter > -y)

(19) Result = 1/Result

(20) Print Result}

(21) End

1. Draw the program graph for the above program.
2. What test data will you use to test the above program using statement coverage?
3. What test data will you use to test the above program using branch coverage?
4. What test data will you use to test the above program using path coverage?

2. Consider the following project.

Activity Duration (weeks) Precedence Relationship

1 2 -

2 1 -

3 3 1

4 2 2, 3

5 3 4

6 3 4

7 1 5, 6

8 2 5

9 1 6

10 1 7, 8

11 2 9, 10

1. Draw the project network.
2. Determine the slack for each activity

c) Identify the critical activities.

d) What is the least number of weeks required to complete the project?