Chapter 5 Exercise 2 (pg 150-151)

a. Draw an AOA network diagram representing the project. Put the node numbers in circles and draw arrows from node to node, labeling each arrow with the activity letter and estimated time.

**ANSWER:**

\[ 
\begin{array}{c}
\text{A=2} \\
\text{B=2} \\
\text{C=3} \\
\text{D=4} \\
\text{E=2} \\
\text{F=3} \\
\text{H=2} \\
\text{I=5} \\
\text{J=1} \\
\text{K=2} \\
\end{array} 
\]

b. Identify all of the paths on the network diagram and note how long they are.

**ANSWER:**

- Path 1: A-B-E-H-K  Length = 2+2+2+2+2 = 10 days
- Path 2: A-B-E-I-J-K  Length = 2+2+2+5+1+2 = 14 days
- Path 3: A-C-F-H-K  Length = 2+3+2+2 = 12 days
- Path 4: A-C-F-I-J-K  Length = 2+3+3+5+1+2 = 16 days
- Path 5: A-D-G-J-K  Length = 2+4+6+1+2 = 15 days

c. What is the critical path for this project and how long is it?

**ANSWER:** The critical path is A-C-F-I-J-K and it is 16 days long.

d. What is the shortest possible time it will take to complete this project?

**ANSWER:** The shortest possible time to finish this project is 16 days.
Potential milestones include the following:

- **Initiating**: Charter developed, project manager assigned, funding approved
- **Planning**: Draft WBS completed, baseline plan completed, cost estimate approved, project team assigned, communications plan distributed
- **Executing**: Contract awarded, server software installed, client hardware installed, client software installed, testing completed, training completed
- **Controlling**: Change control procedures established, change control board established
- **Closing**: Final project report completed, final project presentation completed, lessons learned distributed