1. **(Chapter 7)** A company is setting up an assembly line to produce 120 units per hour. The table below identifies the work elements, times, and immediate predecessors.

|  |  |  |
| --- | --- | --- |
| **Work Element** | **Time (Sec.)** | **Immediate Predecessor(s)** |
| A | 21 | --- |
| B | 20 | A |
| C | 25 | A |
| D | 20 | B |
| E | 10 | B |
| F | 15 | C |
| G | 10 | C |
| H | 12 | D,E |
| I | 12 | F,G |
| J | 20 | H,I |

1. What cycle time is required to satisfy the required output?
2. What is the theoretical minimum number of stations?
3. Use one of the heuristic decision rules described in Table 7.3 on page 258 to balance the assembly line so that it will produce 120 units per hour. Clearly state which decision rule you are using and the work elements assigned to each station.
4. What is the efficiency of the line you **found in part c**?