

4. Sebuah sistim komputer memiliki 6 tape drive, 6 printer, 3 CD dan 4 scanner. Pada saat tertentu, 4 proses sedang berjalan dan sedang menggunakan sumber daya sbb:

Current Allocation:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 0 | 1  | 1 |
| P2 | 1 | 2 | 0  | 1 |
| P3 | 2 | 1 | 1  | 0 |
| P4 | 1 | 2 | 1  | 1 |

Sedangkan kebutuhan sumber daya untuk menyelesaikan proses adalah sbb:

Claim:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 1 | 2  | 1 |
| P2 | 1 | 2 | 0  | 2 |
| P3 | 3 | 1 | 2  | 1 |
| P4 | 1 | 2 | 3  | 1 |

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Claim:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 1 | 2  | 1 |
| P2 | 1 | 2 | 0  | 2 |
| P3 | 3 | 1 | 2  | 1 |
| P4 | 1 | 2 | 3  | 1 |

Allocation:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 0 | 1  | 1 |
| P2 | 1 | 2 | 0  | 1 |
| P3 | 2 | 1 | 1  | 0 |
| P4 | 1 | 2 | 1  | 1 |

C - A:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 0 | 1 | 1  | 0 |
| P2 | 0 | 0 | 0  | 1 |
| P3 | 1 | 0 | 1  | 1 |
| P4 | 0 | 0 | 2  | 0 |

Resource vector: T = 6, P = 6, CD = 3, S = 4

Available vector: T = 1, P = 1, CD = 0, S = 1

P(2) runs to completion

Claim:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 1 | 2  | 1 |
| P2 | 0 | 0 | 0  | 0 |
| P3 | 3 | 1 | 2  | 1 |
| P4 | 1 | 2 | 3  | 1 |

Allocation:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 1 | 0 | 1  | 1 |
| P2 | 0 | 0 | 0  | 0 |
| P3 | 2 | 1 | 1  | 0 |
| P4 | 1 | 2 | 1  | 1 |

C - A:

|    | T | P | CD | S |
|----|---|---|----|---|
| P1 | 0 | 1 | 1  | 0 |
| P2 | 0 | 0 | 0  | 0 |
| P3 | 1 | 0 | 1  | 1 |
| P4 | 0 | 0 | 2  | 0 |

Available vector:  $T = 2$ ,  $P = 3$ ,  $CD = 1$ ,  $S = 1$

Tidak ada process yang bisa diselesaikan, maka terdapat deadlock