TUGAS

SISTEM OPERASI

MATERI DEADLOCK / ALGORITMA BANKER

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PROCESS | ALLOCATION | MAX | AVAILABLE | NEED |
| A B C | A B C | A B C | A B C |
| P1 | 2 0 0 | 3 2 2 | 3 3 2 | 1 2 2 |
| P4 | 0 0 2 | 4 3 3 | 5 2 2 | 4 3 1 |
| P0 | 0 1 0 | 7 5 3 | 5 2 4 | 7 4 3 |
| P2 | 3 0 2 | 9 0 2 | 7 3 5 | 6 0 0 |
| P3 | 2 1 1 | 2 2 2 | 9 3 5 | 0 1 1 |

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* If = need ≤ available

Then = execute process

New available : available + allocation

Else don’t exevute go forward

1. P1 122≤ 322 ( )

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PROCESS | ALLOCATION | MAX | AVAILABLE | NEED |
| A B C | A B C | A B C | A B C |
| P1 | 2 0 0 | 3 2 2 | 0 9 9 | 1 2 2 |
| P4 | 5 2 0 | 4 3 3 | 6 1 6 | 0 0 1 |
| P0 | 0 1 0 | 7 5 3 | 9 1 8 | 7 4 3 |
| P2 | 3 0 2 | 9 0 2 | 10 3 9 | 6 0 0 |
| P3 | 2 1 1 | 2 2 2 | 12 3 9 | 0 1 1 |

322 + 200 = 522

P4 431 ≤ 522 ( )

522 + 002 = 524

P0 743 ≤ 524 ( )

P2 600 ≤ 524 ( )

P3 011 ≤ 524 ( )

524 + 211 = 735

P1 122 ≤ 735 ( )

735 + 200 = 935

Urutan Ekseskusi ( P1,P4,P3,P1 )

KETERANGAN : SAFETY

1. P4 ada permintaan penambahan sumber daya (4, 2, 1)

* Request ≤ Need

421 ≤ 420( x )

* Request ≤ available

420 ≤ 322 ( x )

* Available = Available -Request

= 322- 421 = 099

Allocation = allocation + Request

099 + 421 = 520

Need = Need – Request

420 – 421 = 001

If = need ≤ available

* P1 122 ≤ 099 ( )
* P4 001 ≤ 099 ( )

099 + 520 = 619

* P0 743 ≤ 619 ( )
* P2 600 ≤ 619 ( )
* P3 001 ≤ 619 ( )

619 + 211 = 830

* P1 122 ≤ 830 ( )

830 + 200 = 1030

* P4 001≤ 1030( )

1030+520=1550

Urutan eksekusi ( P4, P2, P3, P1 ) SAFETY