**Systemprogrammierung Hausaufgabe 6 – Theorie**

Namen:

Lino Steinhau

Carl Röber

Adrian Fernholtz

6.1)

a) Optimal:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 3 | 1 | 5 | 6 | 2 | 5 | 1 | 3 | 4 | 2 | 6 |
| K1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | **4** | 4 | 4 |
| K2 |  | **2** | 2 | 2 | 2 | 2 | 2 | 2 | **2** | 2 | 2 | 2 | 2 | **2** | 2 |
| K3 |  |  | **3** | 3 | **3** | 3 | 3 | **6** | 6 | 6 | 6 | 6 | 6 | 6 | **6** |
| K4 |  |  |  | **4** | 4 | 4 | **5** | 5 | 5 | **5** | 5 | **3** | 3 | 3 | 3 |
| Nächste Seite |  |  |  | 4 | 4 | 4 | 3 | 6 | 6 | 5 | 1/  5 | 1/  3 | 3/  4 | 2/  3/  4 | 2/  3/  4/  6/ |

Anzahl Seitenfehler: 7

b) FIFO:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 3 | 1 | 5 | 6 | 2 | 5 | 1 | 3 | 4 | 2 | 6 |
| K1 | **1** | 1 | 1 | 1 | 1 | **1** | **5** | 5 | 5 | **5** | 5 | **3** | 3 | 3 | 3 |
| K2 |  | **2** | 2 | 2 | 2 | 2 | 2 | **6** | 6 | 6 | 6 | 6 | **4** | 4 | 4 |
| K3 |  |  | **3** | 3 | **3** | 3 | 3 | 3 | **2** | 2 | 2 | 2 | 2 | **2** | **6** |
| K4 |  |  |  | **4** | 4 | 4 | 4 | 4 | 4 | 4 | **1** | 1 | 1 | 1 | 1 |
| Queue  (In  ↓  Out) | 1 | 2  1 | 3  2  1 | 4  3  2  1 | 4  3  2  1 | 4  3  2  1 | 5  4  3  2 | 6  5  4  3 | 2  6  5  4 | 2  6  5  4 | 1  2  6  5 | 3  1  2  6 | 4  3  1  2 | 4  3  1  2 | 6  4  3  1 |

Anzahl Seitenfehler: 11

c) LFU:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 3 | 1 | 5 | 6 | 2 | 5 | 1 | 3 | 4 | 2 | 6 |
| K1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | 1 | 1 | 1 |
| K2 |  | **2** | 2 | 2 | 2 | 2 | **5** | 5 | **2** | 2 | 2 | 2 | **4** | 4 | **6** |
| K3 |  |  | **3** | 3 | **3** | 3 | 3 | 3 | 3 | 3 | 3 | **3** | 3 | 3 | 3 |
| K4 |  |  |  | **4** | 4 | 4 | 4 | **6** | 6 | **5** | 5 | 5 | 5 | **2** | 2 |
| Zähler:1  2  3  4  5  6 | 1  0  0  0  0  0 | 1  1  0  0  0  0 | 1  1  1  0  0  0 | 1  1  1  1  0  0 | 1  1  2  1  0  0 | 2  1  2  1  0  0 | 2  1  2  1  1  0 | 2  1  2  1  1  1 | 2  2  2  1  1  1 | 2  2  2  1  2  1 | 3  2  2  1  2  1 | 3  2  3  1  2  1 | 3  2  3  2  2  1 | 3  3  3  2  2  1 | 3  3  3  2  2  2 |

Anzahl Seitenfehler: 11

d) LRU:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 3 | 1 | 5 | 6 | 2 | 5 | 1 | 3 | 4 | 2 | 6 |
| K1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | 1 | 1 | 1 | **1** | 1 | 1 | 1 | **6** |
| K2 |  | **2** | 2 | 2 | 2 | 2 | **5** | 5 | 5 | **5** | 5 | 5 | 5 | **2** | 2 |
| K3 |  |  | **3** | 3 | **3** | 3 | 3 | 3 | **2** | 2 | 2 | 2 | **4** | 4 | 4 |
| K4 |  |  |  | **4** | 4 | 4 | 4 | **6** | 6 | 6 | 6 | **3** | 3 | 3 | 3 |
| Stack | 1 | 2  1 | 3  2  1 | 4  3  2  1 | 3  4  2  1 | 1  3  4  2 | 5  1  3  4 | 6  5  1  3 | 2  6  5  1 | 5  2  6  1 | 1  5  2  6 | 3  1  5  2 | 4  3  1  5 | 2  4  3  1 | 6  2  4  3 |

Anzahl Seitenfehler: 11