**Operációs rendszerek BSc**

7. Gyak.

2022. 03. 21.

**Készítette:**

Potoczki Gitta

V1C6ND

Gazdaságinformatikus

**Miskolc, 2022**

**1. feladat**

FCFS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FCFS | P1 | P2 | P3 | P4 |
| Érk. | 0 | 8 | 12 | 20 |
| CPU idő | 15 | 7 | 26 | 10 |
| Ind. | 0 | 15 | 22 | 48 |
| Bef. | 15 | 22 | 48 | 58 |
| Várakozás | 0 | 7 | 10 | 18 |

bef. idő: 58 ms

átlagos vár.: 8,75 ms

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | P1 | P2 | P3 | P4 |
| 0 |  |  |  |  |
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SJF

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SJF | P1 | P2 | P3 | P4 |  |  |
| Érkezés | 0 | 8 | 12 | 20 | Átl. vár. idő: 7,25 | |
| CPU idő | 15 | 7 | 26 | 10 |  |  |
| Ind. | 0 | 15 | 32 | 22 |  |  |
| Bef. | 15 | 22 | 58 | 32 |  |  |
| Várakozás | 0 | 7 | 20 | 2 |  |  |
| Sorrend: | 1. | 2. | 4. | 3. |  |  |

befejezési idő: 58



RR(10 ms)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| RR(10 ms) | P1 | P2 | P3 | P4 | Sorrend: P1, P2, P3, P4, P1, P3, P3 | | |
| Érkezés | 0 | 8 | 12 | 20 |  |  |  |
| CPU idő | 15 | 7 | 26 | 10 |  |  |  |
| Ind. | 0 | 10 | 17 | 27 |  |  |  |
| Bef. | 10 | 17 | 27 | 37 |  |  |  |
| Várakozás | 0 | 2 | 5 | 7 |  |  |  |
| Várakozik: | P1, P2 | P1, P3 | P1, P3, P4 | P1, P3 |  |  |  |
| 1. kör |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| RR(10 ms) | P1 | P2 | P3 | P4 |  |  |  |
| Érkezés | 10 | - | 27 | - |  |  |  |
| CPU idő | 5 | - | 16 | - |  |  |  |
| Ind. | 37 | - | 43 | - |  |  |  |
| Bef. | 43 | - | 53 | - |  |  |  |
| Várakozás | 27 | - | 16 | - |  |  |  |
| Várakozik: | P3 | - | P3 | - |  |  |  |
| 2. kör |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| RR(10 ms) | P1 | P2 | P3 | P4 |  |  |  |
| Érkezés | - | - | 53 | - |  |  |  |
| CPU idő | - | - | 6 | - |  |  |  |
| Ind. | - | - | 53 | - |  |  |  |
| Bef. | - | - | 59 | - |  |  |  |
| Várakozás | - | - | 0 | - |  |  |  |
| Várakozik: | - | - | - | - |  |  |  |
| 3. kör |  |  |  |  |  |  |  |

átl. várakozási idő: 14,25 ms

bef. idő: 59



2. feladat

RR(10 ms)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RR(10 ms) | P1 | P2 | P3 | P4 | P5 |
| Érkezés | 0 | 3 | 3 | 6 | 8 |
| CPU idő | 3 | 10 | 3 | 6 | 3 |
| Indulás | 0 | 3 | 13 | 16 | 22 |
| Befejezés | 3 | 13 | 16 | 22 | 25 |
| Várakozás | 0 | 0 | 10 | 10 | 14 |
| Körülf.idő: | 3 | 10 | 13 | 16 | 17 |
| Átl.vár.idő: | | 6,8 |  |  |  |
| Átl. körülf. idő: | | 11,8 |  |  |  |
| Végreh. sorrend: | | P1, P2, P3, P4, P5 | |  |  |

Bef. idő: 25



RR(4 ms)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RR(4 ms) | P1 | P2 | P3 | P4 | P5 |  |  |  |  |  |
| Érkezés | 0 | 3 | 3 | 6 | 8 | Átl.vár.idő: | | 6,6 |  |  |
| CPU idő | 3 | 10 | 3 | 6 | 3 | Átl. körülf. idő: | | 11,6 |  |  |
| Indulás | 0 | 3 | 7 | 10 | 14 | Végreh. sorrend: | | P1, P2, P3, P4, P5, P2, P4, P2 | | |
| Befejezés | 3 | 7 | 10 | 14 | 17 | Befejezés: | 25 |  |  |  |
| Várakozás | 0 | 0 | 4 | 4 | 6 |  |  |  |  |  |
| Körülf.idő: | 3 | - | 7 | - | 9 |  |  |  |  |  |
| 1. kör |  |  |  |  |  |  |  |  |  |  |
| RR(4 ms) | P1 | P2 | P3 | P4 | P5 |  |  |  |  |  |
| Érkezés | - | 7 | - | 14 | - |  |  |  |  |  |
| CPU idő | - | 6 | - | 2 | - |  |  |  |  |  |
| Indulás | - | 17 | - | 21 | - |  |  |  |  |  |
| Befejezés | - | 21 | - | 23 | - |  |  |  |  |  |
| Várakozás | - | 10 | - | 7 | - |  |  |  |  |  |
| Körülf.idő: | - | - | - | 17 | - |  |  |  |  |  |
| 2. kör |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| RR(4 ms) | P1 | P2 | P3 | P4 | P5 |  |  |  |  |  |
| Érkezés | - | 21 | - | - | - |  |  |  |  |  |
| CPU idő | - | 2 | - | - | - |  |  |  |  |  |
| Indulás | - | 23 | - | - | - |  |  |  |  |  |
| Befejezés | - | 25 | - | - | - |  |  |  |  |  |
| Várakozás | - | 2 | - | - | - |  |  |  |  |  |
| Körülf.idő: | - | 22 | - | - | - |  |  |  |  |  |
| 3. kör |  |  |  |  |  |  |  |  |  |  |



Az átlagos körülfordulási idő a 4 ms időszeletűnél jobb, ugyanis itt hogyha egy több kört igénylő processz vár, nem feltétlen vár annyit, mint a 10 ms időszeletű ütemezésnél.