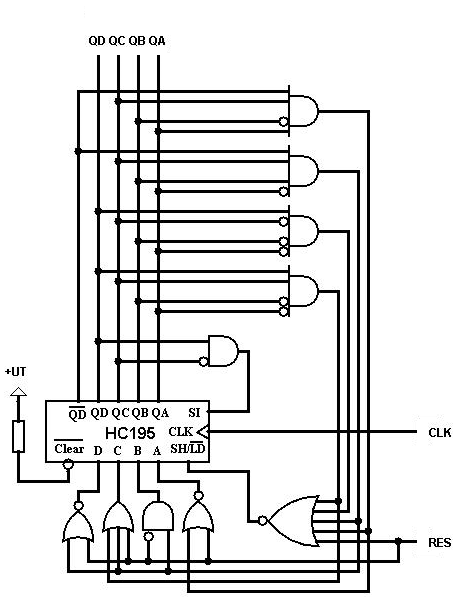
**Megadott állapotokat bejáró léptetőregiszterrel megvalósított sorrendi hálózat   
időbeli működésének vizsgálata**

Adott az alábbi kapcsolás.

Készítse el a kapcsolás idődiagramját!



**Visszafejtés:**

Léptetőregiszter aszinkron törléssel.

Törlés: nincs,

Léptetés illetve párhuzamos betöltés:

Betöltés van RESET-nél, 5h-nál, 6h-nál, 8h-nál és Ch-nál, minden más esetben léptetés van.

**Párhuzamos beíró bemenetek függvényei:**

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**SI bemenet függvénye**

**Párhuzamos betöltéskor a betöltött értékek:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | D | C | B | A |
|  | 0 | 1 | 0 | 0 |
|  | 1 | 0 | 0 | 0 |
|  | 0 | 1 | 1 | 1 |
|  | 1 | 0 | 0 | 1 |
|  | 1 | 1 | 0 | 1 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | QD | QC | QB | QA |  |  |  | SI | D | C | B | A |  |
| Res |  |  |  |  |  | 1 | 0 | - | 0 | 1 | 0 | 0 | 4h betöltése RES-re |
|  | 0 | 1 | 0 | 0 | 4h | 1 | 1 | 0 | 1 | 0 | 0 | 0 | QA felöl 0-át léptetünk be |
| Dek8 | 1 | 0 | 0 | 0 | 8h | 1 | 0 | - | 1 | 0 | 0 | 1 | 9h-t töltünk be. |
|  | 1 | 0 | 0 | 1 | 9h | 1 | 1 | 1 | 0 | 0 | 1 | 1 | QA felöl 1-et léptetünk be |
|  | 0 | 0 | 1 | 1 | 3h | 1 | 1 | 0 | 0 | 1 | 1 | 0 | QA felöl 0-át léptetünk be |
| Dek6 | 0 | 1 | 1 | 0 | 6h | 1 | 0 | - | 0 | 1 | 1 | 1 | 7h-t töltünk be |
|  | 0 | 1 | 1 | 1 | 7h | 1 | 1 | 0 | 1 | 1 | 1 | 0 | QA felöl 0-át léptetünk be |
|  | 1 | 1 | 1 | 0 | Eh | 1 | 1 | 0 | 1 | 1 | 0 | 0 | QA felöl 0-át léptetünk be |
| DekC | 1 | 1 | 0 | 0 | Ch | 1 | 0 | - | 1 | 1 | 0 | 1 | Dh-t töltünk be |
|  | 1 | 1 | 0 | 1 | Dh | 1 | 1 | 0 | 1 | 0 | 1 | 0 | QA felöl 0-át léptetünk be |
|  | 1 | 0 | 1 | 0 | Ah | 1 | 1 | 1 | 0 | 1 | 0 | 1 | QA felöl 1-et léptetünk be |
| Dek5 | 0 | 1 | 0 | 1 | 5h | 1 | 0 | - | 1 | 0 | 0 | 0 | 8h-t töltünk be [újra] |
| Dek8 | 1 | 0 | 0 | 0 | 8h | 1 | 0 | - | 1 | 0 | 0 | 1 | 9h-t töltünk be |

Bejárt állapotok: RES → 4h, 8h, 9h, 3h, 6h, 7h, Eh, Ch, Dh, Ah, 5h és újra 8h

**Idődiagram:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **CLK** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **RES** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **SH/nLD** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **DEK5** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **DEK6** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **DEK8** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **DEKC** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **QD** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **QC** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **QB** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **QA** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **SI** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **D** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **C** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **B** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **A** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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