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Lab work 06

Course Code CSE 231

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Digit | A | B | C | D | a | b | c | d | e | f | g |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 4 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 6 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 8 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
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K Map for the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 0 | 1 | 1 |
| 01 | 0 | 1 | 1 | 1 |
| 11 | X | X | X | X |
| 10 | 1 | 1 | X | x |

a=A+C++BD+B’D’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 1 | 1 | 1 |
| 01 | 1 | 0 | 1 | 0 |
| 11 | X | X | X | X |
| 10 | 1 | 1 | X | x |

B=B’+C’D’+CD

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 1 | 1 | 0 |
| 01 | 1 | 1 | 1 | 1 |
| 11 | X | X | X | X |
| 10 | 1 | 1 | X | X |

C=B+C’+D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 0 | 1 | 1 |
| 01 | 0 | 1 | 1 | 1 |
| 11 | X | X | X | X |
| 10 | 1 | 1 | X | x |

D= B’D’+C’D’+BC’D+BC+A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 0 | 0 | 1 |
| 01 | 0 | 0 | 0 | 1 |
| 11 | X | X | X | X |
| 10 | 1 | 0 | X | X |

E= B’D’+C’D’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 00 | 1 | 0 | 0 | 0 |
| 01 | 1 | 1 | 0 | 1 |
| 11 | X | X | X | X |
| 10 | 1 | 1 | X | X |

F=A+C’D’+BC’+BD’

Summary of the lab :

In today’s lab, we learned about two types of cathode, common anode, common cathode. We learned about 7 segments decoder. By using 7 segments decoder we can show various numbers or alphabet. We learned about a short brief about our project and now we can build our project with the help of this lab.