# SARCINI PENTRU LUCRUL INDIVIDUAL

**Indicații:**

- De executat cinci sarcine conform variantei indicate în tabele (varianta pentru fiecare student este prezentată în tabele);
- Schemele electrice de construit cu ajutorul programului Electronics Workbenci;
- Raportul de prezentat într-un fişier de tip Word (în denumirea fişierului de indicat numele şi grupa);
- Fiecare sarcină este apreciată cu 2 puncte;
- Raportul referitor la lucrul individual trebuie transmis pe email – eugenplohotniuc@yahoo.com
- **Termenul limită de prezentare a lucrului individual – 16 decembrie 2022.**

**Указания:**

- выполнить пять заданий по варианту, указанному в таблицах (в таблицах представлен вариант для каждого студента);
- электрические схемы построить с помощью программы Electronics Workbench;
- отчет должен быть представлен в виде файла Word (указать фамилию и группу в названии файла);
- каждое задание оценивается в 2 балла;
- отчет по индивидуальной работе необходимо отправить по электронной почте - eugenplohotniuc@yahoo.com
- **Крайний срок представления индивидуальной работы – 16 декабря 2022 года.**

| Nr. d/o | NUME, PRENUME | GRUPA | VARIANTA |
|---|---|---|---|
| 1 | Adam Denis | IS21Z | 1 |
| 2 | Caminceanu Valentin | IS21Z | 2 |
| 3 | Cernolev Corina | IS21Z | 3 |
| 4 | Cojocari Dmitri | IS21Z | 4 |
| 5 | Costiuc Igor | IS21Z | 5 |
| 6 | Davîdov Ecaterina | IS21Z | 6 |
| 7 | Diacov Cătălin | IS21Z | 7 |
| 8 | Driga Nicolai | IS21Z | 8 |
| 9 | Frasiniuc Ilona | IS21Z | 9 |
| 10 | Gaideic Victor | IS21Z | 10 |
| 11 | Gangan Anastasia | IS21Z | 11 |
| 12 | Gavriliţă Dorin | IS21Z | 12 |
| 13 | Maximenco Vladislav | IS21Z | 13 |
| 14 | Novicov  Daniil | IS21Z | 14 |
| 15 | Pogor Cristian | IS21Z | 15 |
| 16 | Russu Nicolai | IS21Z | 16 |
| 17 | Samciucov Valentin | IS21Z | 17 |
| 18 | Smoleac Mihai | IS21Z | 18 |
| 19 | Ulmada Dmitri | IS21Z | 19 |
| 20 | Tcaci Pavel | IS21Z | 20 |
| 21 | Chiperi Daniel | IT21Z | 21 |
| 22 | Curbăt Anatolie | IT21Z | 22 |
| 23 | Deleu Liviu | IT21Z | 23 |
| 24 | Gluşcov Alexandr | IT21Z | 24 |
| 25 | Marchitan Alexandru | IT21Z | 25 |
| 26 | Panciuc Cătălin | IT21Z | 26 |
| 27 | Vichilu Elena | IT21Z | 27 |
| 28 | Guranda Adrian | MI31Z | 28 |
| 29 | Guranda Natalia | MI31Z | 29 |
| 30 | Plîngău Cătălina | MI31Z | 30 |

**SARCINA 1.** Completați tabelul de adevăr și construiți schema electrică ale dispozitivului care îndeplinește următoarea funcție. Verificați corectitudinea completării tabelului de adevăr cu ajutorul convertorului logic. (Заполнить таблицу истинности и построить электрическую схему устройства, которое выполняет следующую функцию. Проверить правильность заполнения таблицы истинности при помощи логического конвертора. )

| Varianta | Funcția |
|----------|---------|
| 1. | $f(a,b,c,d)= \bar{a}bcd + (ab + \bar{c}d) + \bar{a}b\bar{d}$ |
| 2. | $f(a,b,c,d)= \bar{a}cd + ab\bar{c}d + (\bar{a}b + \bar{d})$ |
| 3. | $f(a,b,c,d)= \overline{a\bar{b}} + b\bar{c}d + \bar{a}b\bar{d}$ |
| 4. | $f(a,b,c,d)= \bar{a}d + ab\bar{c} + \overline{a + b}\bar{d}$ |
| 5. | $f(a,b,c,d)= \bar{a}bd + abd + \bar{a}c\bar{d}$ |
| 6. | $f(a,b,c,d)= (\bar{a}c + d) + ab\bar{c}d + \bar{a}\overline{dc}$ |
| 7. | $f(a,b,c,d)= \bar{a}bcd + ab\bar{c}d + \bar{a}b + \bar{d}$ |
| 8. | $f(a,b,c,d)= \bar{a}cd + ab\bar{c}d + \bar{a}\bar{d}$ |
| 9. | $f(a,b,c,d)= (\bar{a} + cd) + b\bar{c}d + \bar{b}\bar{d}$ |
| 10. | $f(a,b,c,d)= \bar{a}c + \overline{abcd} + (\bar{a} + \bar{d})$ |
| 11. | $f(a,b,c,d)= \bar{a}cd + (ab + \bar{c}d) + \bar{a}\bar{d}$ |
| 12. | $f(a,b,c,d)= (\overline{bc} + d) + ab\bar{c}d + \bar{a}b\bar{d}$ |
| 13. | $f(a,b,c,d)= \overline{a + b}cd + (a + b\bar{c}d) + \bar{a}cd$ |
| 14. | $f(a,b,c,d)= (\overline{bc} + d) + ab\bar{c} + \overline{abcd}$ |
| 15. | $f(a,b,c,d)= (\bar{a}c + d) + abd + \overline{bc}\bar{d}$ |
| 16. | $f(a,b,c,d)= \bar{a}bcd + (b + \bar{c}d) + \bar{a}cd$ |
| 17. | $f(a,b,c,d)= (\overline{ab} + cd) + ab\bar{c} + \overline{abcd}$ |
| 18. | $f(a,b,c,d)= \bar{a}c + bd + ab\bar{c}d + (\bar{a}b + \bar{d})$ |
| 19. | $f(a,b,c,d)= \overline{a\bar{b}} + ab\bar{c}d + \bar{a}b\bar{d}$ |
| 20. | $f(a,b,c,d)= (\bar{a} + d) + ab\bar{c} + \overline{a + b}\bar{d}$ |
| 21. | $f(a,b,c,d)= \bar{a}bd + abd + \bar{a}bc\bar{d}$ |
| 22. | $f(a,b,c,d)= (\bar{a}c + d) + ab\bar{c}d + \bar{a}\overline{dc}$ |
| 23. | $f(a,b,c,d)= bd + ab\bar{c}d + (\bar{a}bc + \bar{d})$ |
| 24. | $f(a,b,c,d)= (\bar{a} + d) + b\bar{c}d + (\overline{ab} + \bar{d})$ |
| 25. | $f(a,b,c,d)= \overline{abcd} + (a + b\bar{c}d) + \bar{c}\bar{d}$ |
| 26. | $f(a,b,c,d)= \overline{ac}d + (ab\bar{c} + d) + \bar{a}\bar{d}$ |
| 27. | $f(a,b,c,d)= \bar{a}cd + (ab + \bar{c}d) + \bar{a}\bar{d}$ |
| 28. | $f(a,b,c,d)= (\bar{a} + cd) + b\bar{c}d + \overline{abc\bar{d}}$ |
| 29. | $f(a,b,c,d)= (\bar{a}c + abd) + b\bar{c}d + \bar{a}\overline{dc}$ |
| 30. | $f(a,b,c,d)= \bar{a}bcd + ab\bar{c}d + (\bar{a}b + \bar{d})$ |

**SARCINA 2.** Transformați funcția logică din FCNC în FCND și prezentați funcția obținută prin metoda numerică (Преобразовать логическую функцию из СКНФ в СДНФ и представить полученную функцию в цифровом виде)

| Varianta | Funcția |
|---|---|
| 1. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + \bar{c} + d + \bar{e})(\bar{a} + \bar{b} + c + \bar{d} + \bar{e})$ $(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + e)$ |
| 2. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + \bar{c} + \bar{d} + \bar{e})(\bar{a} + \bar{b} + \bar{c} + \bar{d} + e)$ $(\bar{a} + \bar{b} + \bar{c} + d + \bar{e})(\bar{a} + \bar{b} + c + \bar{d} + \bar{e})(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})$ |
| 3. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + \bar{c} + \bar{d} + e)(\bar{a} + \bar{b} + \bar{c} + d + \bar{e})$ $(\bar{a} + \bar{b} + c + \bar{d} + \bar{e})(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})$ |
| 4. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + \bar{c} + d + \bar{e})(\bar{a} + \bar{b} + c + \bar{d} + \bar{e})$ $(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + e)$ |
| 5. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + c + \bar{d} + \bar{e})(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})$ $(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + e)(a + \bar{b} + \bar{c} + d + e)$ |
| 6. | $f(a,b,c,d,e) = (\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})$ $(a + \bar{b} + \bar{c} + \bar{d} + e)(a + \bar{b} + \bar{c} + d + e)(a + \bar{b} + c + \bar{d} + \bar{e})$ |
| 7. | $f(a,b,c,d,e) = (a + \bar{b} + \bar{c} + \bar{d} + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + e)$ $(a + \bar{b} + \bar{c} + d + e)(a + \bar{b} + c + \bar{d} + \bar{e})(a + \bar{b} + c + \bar{d} + e)$ |
| 8. | $f(a,b,c,d,e) = (a + \bar{b} + \bar{c} + \bar{d} + e)(a + \bar{b} + \bar{c} + d + e)$ $(a + \bar{b} + c + \bar{d} + \bar{e})(a + \bar{b} + c + \bar{d} + e)(a + \bar{b} + c + d + e)$ |
| 9. | $f(a,b,c,d,e) = (a + \bar{b} + \bar{c} + d + e)(a + \bar{b} + c + \bar{d} + \bar{e})$ $(a + \bar{b} + c + \bar{d} + e)(a + \bar{b} + c + d + e)(a + b + \bar{c} + \bar{d} + \bar{e})$ |
| 10. | $f(a,b,c,d,e) = (a + \bar{b} + c + \bar{d} + \bar{e})(a + \bar{b} + c + \bar{d} + e)$ $(a + \bar{b} + c + d + e)(a + b + \bar{c} + \bar{d} + \bar{e})(a + b + \bar{c} + \bar{d} + e)$ |
| 11. | $f(a,b,c,d,e) = (a + \bar{b} + c + \bar{d} + e)(a + \bar{b} + c + d + e)$ $(a + b + \bar{c} + \bar{d} + \bar{e})(a + b + \bar{c} + \bar{d} + e)(a + b + \bar{c} + d + \bar{e})$ |
| 12. | $f(a,b,c,d,e) = (a + \bar{b} + c + d + e)(a + b + \bar{c} + \bar{d} + \bar{e})$ $(a + b + \bar{c} + \bar{d} + e)(a + b + \bar{c} + d + \bar{e})(a + b + \bar{c} + d + e)$ |
| 13. | $f(a,b,c,d,e) = (a + b + \bar{c} + \bar{d} + \bar{e})(a + b + \bar{c} + \bar{d} + e)$ $(a + b + \bar{c} + d + \bar{e})(a + b + \bar{c} + d + e)(a + b + c + \bar{d} + \bar{e})$ |
| 14. | $f(a,b,c,d,e) = (a + b + \bar{c} + \bar{d} + e)(a + b + \bar{c} + d + \bar{e})$ $(a + b + \bar{c} + d + e)(a + b + c + \bar{d} + \bar{e})(a + b + c + d + \bar{e})$ |
| 15. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + c + \bar{d} + \bar{e})(\bar{a} + \bar{b} + c + d + \bar{e})$ $(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(\bar{a} + b + \bar{c} + d + \bar{e})(\bar{a} + b + c + \bar{d} + \bar{e})$ |
| 16. | $f(a,b,c,d,e) = (\bar{a} + \bar{b} + c + d + \bar{e})(\bar{a} + b + \bar{c} + \bar{d} + \bar{e})$ $(\bar{a} + b + \bar{c} + d + \bar{e})(\bar{a} + b + c + \bar{d} + \bar{e})(\bar{a} + b + c + \bar{d} + e)$ |
| 17. | $f(a,b,c,d,e) = (\bar{a} + b + \bar{c} + \bar{d} + \bar{e})(\bar{a} + b + \bar{c} + d + \bar{e})$ $(\bar{a} + b + c + \bar{d} + \bar{e})(\bar{a} + b + c + \bar{d} + e)(\bar{a} + b + c + d + \bar{e})$ |
| 18. | $f(a,b,c,d,e) = (\bar{a} + b + \bar{c} + d + \bar{e})(\bar{a} + b + c + \bar{d} + \bar{e})$ $(\bar{a} + b + c + \bar{d} + e)(\bar{a} + b + c + d + \bar{e})(a + \bar{b} + \bar{c} + \bar{d} + \bar{e})$ |
| 19. | $f(a,b,c,d,e) = (\bar{a} + b + c + \bar{d} + \bar{e})(\bar{a} + b + c + \bar{d} + e)$ |

| | |
|---|---|
| | $(\bar{a}+b+c+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+\bar{e})$ |
| 20. | $f(a,b,c,d,e) = (\bar{a}+b+c+\bar{d}+e)(\bar{a}+b+c+d+\bar{e})$ <br> $(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+\bar{e})(a+\bar{b}+c+\bar{d}+\bar{e})$ |
| 21. | $f(a,b,c,d,e) = (\bar{a}+b+c+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})$ <br> $(a+\bar{b}+\bar{c}+d+\bar{e})(a+\bar{b}+c+\bar{d}+\bar{e})(a+b+\bar{c}+\bar{d}+\bar{e})$ |
| 22. | $f(a,b,c,d,e) = (a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+\bar{e})$ <br> $(a+\bar{b}+c+\bar{d}+\bar{e})(a+b+\bar{c}+\bar{d}+\bar{e})(a+b+\bar{c}+d+\bar{e})$ |
| 23. | $f(a,b,c,d,e) = (\bar{a}+\bar{b}+\bar{c}+d+\bar{e})(\bar{a}+\bar{b}+c+\bar{d}+\bar{e})$ <br> $(\bar{a}+b+\bar{c}+\bar{d}+\bar{e})(\bar{a}+b+\bar{c}+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})$ |
| 24. | $f(a,b,c,d,e) = (\bar{a}+\bar{b}+c+\bar{d}+\bar{e})(\bar{a}+b+\bar{c}+\bar{d}+\bar{e})$ <br> $(\bar{a}+b+\bar{c}+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+e)$ |
| 25. | $f(a,b,c,d,e) = (\bar{a}+b+\bar{c}+\bar{d}+\bar{e})(\bar{a}+b+\bar{c}+d+\bar{e})$ <br> $(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+e)(a+\bar{b}+c+\bar{d}+\bar{e})$ |
| 26. | $f(a,b,c,d,e) = (\bar{a}+b+\bar{c}+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})$ <br> $(a+\bar{b}+\bar{c}+d+e)(a+\bar{b}+c+\bar{d}+\bar{e})(a+\bar{b}+c+d+e)$ |
| 27. | $f(a,b,c,d,e) = (a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+e)$ <br> $(a+\bar{b}+c+\bar{d}+\bar{e})(a+\bar{b}+c+d+e)(a+b+c+\bar{d}+\bar{e})$ |
| 28. | $f(a,b,c,d,e) = (a+\bar{b}+c+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+e)$ <br> $(a+\bar{b}+c+\bar{d}+e)(a+\bar{b}+c+d+e)(a+b+c+\bar{d}+\bar{e})$ |
| 29. | $f(a,b,c,d,e) = (\bar{a}+b+\bar{c}+d+\bar{e})(\bar{a}+b+c+\bar{d}+\bar{e})$ <br> $(\bar{a}+b+c+\bar{d}+e)(\bar{a}+b+c+d+\bar{e})(a+\bar{b}+c+d+\bar{e})$ |
| 30. | $f(a,b,c,d,e) = (\bar{a}+b+c+\bar{d}+\bar{e})(\bar{a}+b+c+\bar{d}+e)$ <br> $(\bar{a}+b+c+d+\bar{e})(a+\bar{b}+\bar{c}+\bar{d}+\bar{e})(a+\bar{b}+\bar{c}+d+e)$ |

**SARCINA 3.** Construiți schema electrică a registrului de deplasare directă de ordinul 5 din bistabili JK și prezentați diagramele temporale pentru cazul înscrieri codului indicat în tabel. (Построить электрическую схему регистра прямого смещения 5 порядка из JK триггеров и представить временные диаграммы при записи кода, указанного в таблице).

| Varianta | Codul |
|---|---|
| 1. | 00100 |
| 2. | 01001 |
| 3. | 01010 |
| 4. | 01011 |
| 5. | 01100 |
| 6. | 01101 |
| 7. | 01110 |
| 8. | 10010 |
| 9. | 10011 |
| 10. | 10100 |
| 11. | 10110 |
| 12. | 10111 |
| 13. | 11000 |
| 14. | 11001 |
| 15. | 11010 |
| 16. | 11011 |
| 17. | 11100 |
| 18. | 11101 |
| 19. | 11110 |
| 20. | 00101 |
| 21. | 00110 |
| 22. | 00111 |
| 23. | 01111 |
| 24. | 10001 |
| 25. | 10101 |
| 26. | 00011 |
| 27. | 00010 |
| 28. | 10000 |
| 29. | 10110 |
| 30. | 11001 |

**SARCINA 4.** Construiți schema electrică a unui contor din bistabili D cu modul de numărare M, indicat în tabel (Построить электрическую схему счётчика из D триггеров по модулю M, указанного в таблице).

| Varianta | Modulul de numărare M |
|----------|------------------------|
| 1. | 011001 |
| 2. | 101001 |
| 3. | 101010 |
| 4. | 101011 |
| 5. | 101100 |
| 6. | 101101 |
| 7. | 101110 |
| 8. | 110010 |
| 9. | 110011 |
| 10. | 110100 |
| 11. | 110110 |
| 12. | 110111 |
| 13. | 111000 |
| 14. | 111001 |
| 15. | 111010 |
| 16. | 111011 |
| 17. | 111100 |
| 18. | 111101 |
| 19. | 111110 |
| 20. | 100101 |
| 21. | 100110 |
| 22. | 100111 |
| 23. | 101111 |
| 24. | 010100 |
| 25. | 010101 |
| 26. | 011101 |
| 27. | 010110 |
| 28. | 010111 |
| 29. | 101011 |
| 30. | 100100 |

**SARCINA 5.** Construiți schema electrică a microcircuitului memoriei permanente și înscrieți programa din tabel (Построить электрическую схему микросхемы постоянной памяти и запишите программу, представленную в таблице.)

| Varianta | | Tabele | | | |
|---|---|---|---|---|---|
| **1** | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ | |
| | | $M_0$ | 0000 | 001011 | |
| | | $M_1$ | 0001 | 110010 | |
| | | $M_2$ | 0010 | 011001 | |
| | | $M_3$ | 0011 | 100010 | |
| | | $M_4$ | 0100 | 101101 | |
| | | $M_5$ | 0101 | 111010 | |
| | | $M_6$ | 0110 | 001110 | |
| | | $M_7$ | 0111 | 010001 | |
| | | $M_8$ | 1000 | 101011 | |
| 2 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ | |
| | | $M_0$ | 0000 | 001011 | |
| | | $M_1$ | 0001 | 110010 | |
| | | $M_2$ | 0010 | 011001 | |
| | | $M_3$ | 0011 | 100010 | |
| | | $M_4$ | 0100 | 101101 | |
| | | $M_5$ | 0101 | 111010 | |
| | | $M_6$ | 0110 | 001110 | |
| | | $M_7$ | 0111 | 010001 | |
| | | $M_8$ | 1000 | 101011 | |
| 3 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ | |
| | | $M_0$ | 0000 | 101001 | |
| | | $M_1$ | 0001 | 110010 | |
| | | $M_2$ | 0010 | 011000 | |
| | | $M_3$ | 0011 | 101010 | |
| | | $M_4$ | 0100 | 001101 | |
| | | $M_5$ | 0101 | 011010 | |
| | | $M_6$ | 0110 | 001110 | |
| | | $M_7$ | 0111 | 010101 | |
| | | $M_8$ | 1000 | 101010 | |
| 4 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ | |
| | | $M_0$ | 0000 | 111001 | |
| | | $M_1$ | 0001 | 110010 | |
| | | $M_2$ | 0010 | 011001 | |
| | | $M_3$ | 0011 | 100010 | |
| | | $M_4$ | 0100 | 001101 | |
| | | $M_5$ | 0101 | 111011 | |
| | | $M_6$ | 0110 | 001110 | |
| | | $M_7$ | 0111 | 010101 | |
| | | $M_8$ | 1000 | 101010 | |

| 5 | | | |
|---|---|---|---|
| | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | $M_0$ | 0000 | 001101 |
| | $M_1$ | 0001 | 110010 |
| | $M_2$ | 0010 | 011001 |
| | $M_3$ | 0011 | 100010 |
| | $M_4$ | 0100 | 000101 |
| | $M_5$ | 0101 | 111010 |
| | $M_6$ | 0110 | 101110 |
| | $M_7$ | 0111 | 010001 |
| | $M_8$ | 1000 | 101010 |

| 6 | | | |
|---|---|---|---|
| | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | $M_0$ | 0000 | 101001 |
| | $M_1$ | 0001 | 110010 |
| | $M_2$ | 0010 | 111001 |
| | $M_3$ | 0011 | 100010 |
| | $M_4$ | 0100 | 001101 |
| | $M_5$ | 0101 | 111010 |
| | $M_6$ | 0110 | 001110 |
| | $M_7$ | 0111 | 010011 |
| | $M_8$ | 1000 | 101010 |

| 7 | | | |
|---|---|---|---|
| | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | $M_0$ | 0000 | 001001 |
| | $M_1$ | 0001 | 110010 |
| | $M_2$ | 0010 | 011001 |
| | $M_3$ | 0011 | 100010 |
| | $M_4$ | 0100 | 001101 |
| | $M_5$ | 0101 | 111010 |
| | $M_6$ | 0110 | 001110 |
| | $M_7$ | 0111 | 010001 |
| | $M_8$ | 1000 | 100010 |

| 8 | | | |
|---|---|---|---|
| | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | $M_0$ | 0000 | 001011 |
| | $M_1$ | 0001 | 110010 |
| | $M_2$ | 0010 | 011001 |
| | $M_3$ | 0011 | 100010 |
| | $M_4$ | 0100 | 001101 |
| | $M_5$ | 0101 | 110010 |
| | $M_6$ | 0110 | 001110 |
| | $M_7$ | 0111 | 010001 |
| | $M_8$ | 1000 | 111011 |

| 9 | | | |
|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110110 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 110001 |
| | | $M_8$ | 1000 | 101010 |

| 10 | | | |
|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 010001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101011 |

| 11 | | | |
|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 101010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 101110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 111010 |

| 12 | | | |
|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110110 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 011110 |
| | | $M_7$ | 0111 | 010011 |
| | | $M_8$ | 1000 | 101010 |

| 13 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|----|---|---|---|---|
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101110 |

| 14 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|----|---|---|---|---|
| | | $M_0$ | 0000 | 101010 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 101110 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 101010 |
| | | $M_6$ | 0110 | 001111 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 110010 |

| 15 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|----|---|---|---|---|
| | | $M_0$ | 0000 | 101001 |
| | | $M_1$ | 0001 | 010010 |
| | | $M_2$ | 0010 | 011101 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 011001 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010101 |
| | | $M_8$ | 1000 | 001011 |

| 16 | | Locația memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|----|---|---|---|---|
| | | $M_0$ | 0000 | 111001 |
| | | $M_1$ | 0001 | 010010 |
| | | $M_2$ | 0010 | 111001 |
| | | $M_3$ | 0011 | 101010 |
| | | $M_4$ | 0100 | 001001 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001100 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101001 |

| 17 | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|---|---|---|---|---|
| | | $M_0$ | 0000 | 101001 |
| | | $M_1$ | 0001 | 010010 |
| | | $M_2$ | 0010 | 011101 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 011101 |
| | | $M_5$ | 0101 | 111110 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 011010 |

| 18 | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|---|---|---|---|---|
| | | $M_0$ | 0000 | 111001 |
| | | $M_1$ | 0001 | 100010 |
| | | $M_2$ | 0010 | 111001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 011001 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001100 |
| | | $M_7$ | 0111 | 010011 |
| | | $M_8$ | 1000 | 101011 |

| 19 | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|---|---|---|---|---|
| | | $M_0$ | 0000 | 101001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 010101 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 011101 |
| | | $M_5$ | 0101 | 110010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 110001 |
| | | $M_8$ | 1000 | 001010 |

| 20 | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
|---|---|---|---|---|
| | | $M_0$ | 0000 | 111001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 111001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001001 |
| | | $M_5$ | 0101 | 110010 |
| | | $M_6$ | 0110 | 101100 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101000 |

| 21 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 100001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011101 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 011101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010011 |
| | | $M_8$ | 1000 | 001011 |

| 22 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 111001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 111011 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001001 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 011100 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101111 |

| 23 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001011 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 101101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101011 |

| 24 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 101001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001001 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101011 |

| 25 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001111 |
| | | $M_1$ | 0001 | 110110 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100010 |
| | | $M_4$ | 0100 | 001001 |
| | | $M_5$ | 0101 | 111011 |
| | | $M_6$ | 0110 | 001110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 001010 |

| 26 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 011001 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 111010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111000 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101111 |

| 27 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 101001 |
| | | $M_1$ | 0001 | 110110 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 100110 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 111010 |
| | | $M_6$ | 0110 | 001010 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101110 |

| 28 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001111 |
| | | $M_1$ | 0001 | 110010 |
| | | $M_2$ | 0010 | 011011 |
| | | $M_3$ | 0011 | 000010 |
| | | $M_4$ | 0100 | 001101 |
| | | $M_5$ | 0101 | 101010 |
| | | $M_6$ | 0110 | 001110 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 101011 |

| 29 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 001001 |
| | | $M_1$ | 0001 | 110110 |
| | | $M_2$ | 0010 | 011001 |
| | | $M_3$ | 0011 | 000110 |
| | | $M_4$ | 0100 | 100101 |
| | | $M_5$ | 0101 | 111011 |
| | | $M_6$ | 0110 | 001011 |
| | | $M_7$ | 0111 | 010001 |
| | | $M_8$ | 1000 | 111010 |

| 30 | | | | |
|---|---|---|---|---|
| | | Locaţia memoriei | Adresa $A_3A_2A_1A_0$ | Datele $D_5D_4D_3D_2D_1D_0$ |
| | | $M_0$ | 0000 | 101191 |
| | | $M_1$ | 0001 | 101010 |
| | | $M_2$ | 0010 | 010010 |
| | | $M_3$ | 0011 | 000010 |
| | | $M_4$ | 0100 | 101101 |
| | | $M_5$ | 0101 | 101010 |
| | | $M_6$ | 0110 | 011110 |
| | | $M_7$ | 0111 | 110101 |
| | | $M_8$ | 1000 | 101010 |