Ασκηση 3

Τμημα Α5

Συνεργατες:

Αλεξιος Λαζανας 1100605

Σταματια Καλημερη 1103080

Καταχωρητες:

PC:0000

ACC:0010

X:0001

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **LDA K(X)** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m06 |
| MDR+0->ACC | xxxxx | 000 | χχχ | 111 | 000 | 011 | χχχχ | 0010 | χχ | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | m07 |
| ACC+X->ACC | xxxxx | 000 | χχχ | 001 | 000 | 011 | 0010 | 0001 | χχ | X | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | m08 |
| ACC+0->NOP,MAR | xxxxx | 000 | χχχ | 100 | 000 | 001 | 0010 | χχχχ | χχ | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |  |
| MDR+0->ACC | xxxxx | 000 | χχχ | 111 | 000 | 011 | χχχχ | 0010 | χχ | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |  |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m09 |

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| **LDA #Κ** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m02 |
| MDR+0->ACC | xxxxx | 000 | χχχ | 111 | 000 | 011 | χχχχ | 0010 | χχ | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | m03 |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m04 |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m05 |

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| **INX** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| X+1->X | XXXXX | 000 | XXX | 101 | 000 | 011 | 0001 | 0001 | 01 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | m02 |
| PC+1->PC, MAR | XXXXX | 000 | XXX | 101 | 000 | 011 | 0000 | 0000 | 01 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m03 |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m05 |

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| **CMPX #K** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m06 |
| X-MDR->FR ! | XXXXX | 000 | XXX | 101 | 001 | 011 | 0010 | XXXX | XX | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | m07 |
| PC+1->PC, MAR | XXXXX | 000 | XXX | 101 | 000 | 011 | 0001 | 0001 | 0.1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m08 |
| NEXT(PC) | XXXXX | 0.00 | XXX | XXX | XXX | 001 | XXXX | XXXX | XX | X | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |  |

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| **STA K(Χ)** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m0e |
| X+MDR->NOP, MAR | XXXXX | 0.00 | XXX | 101 | 000 | 001 | 0001 | XXXX | XX | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | m0f |
| ACC+0->NOP, MWE~ | XXXXX | 0.00 | XXX | 100 | 000 | 001 | 0010 | XXXX | XX | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | m10 |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m12 |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m13 |

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| **CRC** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| X+0->X | XXXXX | 000 | XXX | 100 | 000 | 011 | 0001 | 0001 | XX | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | m0e |
| PC+1->PC, MAR | XXXXX | 000 | XXX | 101 | 000 | 011 | 0000 | 0000 | 0.1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m0f |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m13 |

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| **JNZ $K** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m02 |
| BRZ,0010(πηδα 2) | 0010 | 011 | 011 | xxx | xxx | xxx | χχχχ | xxxx | χχ | Χ | x | x | x | x | x | x | x | x | x | m07 |
| JMP,0011 | 0011 | 010 | χχχ | xxx | xxx | xxx | xxxx | xxxx | χχ | X | x | x | x | x | x | x | x | x | x | m08 |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m02 |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m13 |
| MDR+0->ACC | xxxxx | 000 | χχχ | 111 | 000 | 011 | χχχχ | 0010 | χχ | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | m07 |
| ACC+0->NOP, MWE~ | XXXXX | 0.00 | XXX | 100 | 000 | 001 | 0010 | XXXX | XX | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | m10 |
| MDR+0->ACC | xxxxx | 000 | χχχ | 111 | 000 | 011 | χχχχ | 0010 | χχ | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | m07 |
| PC+ACC->PC | xxxxx | 000 | χχχ | 001 | 000 | 011 | 0010 | 0000 | xx | Χ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |  |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m13 |

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| **SHLA** | BRA | BIN | CON | I | I | I | APORT | BPORT | DDATA | SH~ | SELB | MWE~ | MARCLK | MSTATUS | LDS~ | PCE~ | CARRYE~ | MDE~ | DDATAE~ | **ADDRESS** |
|  | (4:0) | (2:0) | (2:0) | (2:0) | (5:3) | (8:6) | (3:0) | (3:0) | (1:0) |  |  |  |  |  |  |  |  |  |  |  |
| ACC+0->ACC,SRMU | XXXXX | 0.00 | XXX | 100 | 000 | 111 | 0010 | XXXX | XX | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |  |
| PC+1->PC,MAR | xxxxx | 000 | χχχ | 101 | 000 | 011 | 0000 | 0000 | 01 | Χ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | m02 |
| NEXT(PC) | xxxxx | 000 | χχχ | χχχ | χχχ | 001 | χχχχ | χχχχ | χχ | χ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | m13 |