|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Адрес (РС) | Мнемокод | Микрокоманда | ОЗУ | | CR | | | АУ | | Ячейки | |
| MAR | MDR | COP | TA | ADR | Acc | DR | 007 | 009 |
| 000 | RD #988 | MAR := PC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | MRd |  | 211988 |  |  |  |  |  |  |  |
|  |  | CR := MDR |  |  | 21 | 1 | 988 |  |  |  |  |
|  |  | PC := PC + 1 |  |  |  |  |  |  |  |  |  |
|  |  | Acc := ADR |  |  |  |  |  | 988 |  |  |  |
|  |  | END\_COMMAND |  |  |  |  |  |  |  |  |  |
| 001 | ADD #019 | MAR := PC | 1 |  |  |  |  |  |  |  |  |
|  |  | MRd |  | 231019 |  |  |  |  |  |  |  |
|  |  | CR := MDR |  |  | 23 |  | 19 |  |  |  |  |
|  |  | PC := PC + 1 |  |  |  |  |  |  |  |  |  |
|  |  | DR := ADR |  |  |  |  |  |  | 19 |  |  |
|  |  | ALU <-- COP |  |  |  |  |  |  |  |  |  |
|  |  | Start ALU |  |  |  |  |  | 1007 |  |  |  |
|  |  | END\_COMMAND |  |  |  |  |  |  |  |  |  |
| 002 | WR 009 | MAR := PC | 2 |  |  |  |  |  |  |  |  |
|  |  | MRd |  | 220009 |  |  |  |  |  |  |  |
|  |  | CR := MDR |  |  | 22 | 0 | 9 |  |  |  |  |
|  |  | PC := PC + 1 | 3 |  |  |  |  |  |  |  |  |
|  |  | MAR := ADR | 9 |  |  |  |  |  |  |  |  |
|  |  | MDR := Acc |  | 1007 |  |  |  |  |  |  |  |
|  |  | MWr |  |  |  |  |  |  |  |  | 1007 |
|  |  | END\_COMMAND |  |  |  |  |  |  |  |  |  |
| 003 | WR @009 | MAR := PC | 3 |  |  |  |  |  |  |  |  |
|  |  | MRd |  | 222009 |  |  |  |  |  |  |  |
|  |  | CR := MDR |  |  |  | 2 |  |  |  |  |  |
|  |  | PC := PC + 1 |  |  |  |  |  |  |  |  |  |
|  |  | MAR := ADR | 9 |  |  |  |  |  |  |  |  |
|  |  | MRd |  | 1007 |  |  |  |  |  |  |  |
|  |  | RA := MDR |  |  |  |  |  |  |  |  |  |
|  |  | MAR := RA | 7 |  |  |  |  |  |  |  |  |
|  |  | MDR := Acc |  |  |  |  |  |  |  |  |  |
|  |  | MWr |  |  |  |  |  |  |  | 1007 |  |
|  |  | END\_COMMAND |  |  |  |  |  |  |  |  |  |
| 004 | JNZ 1 | MAR := RC | 4 |  |  |  |  |  |  |  |  |
|  |  | MRd |  | 120001 |  |  |  |  |  |  |  |
|  |  | CR := MDR |  |  | 12 | 0 | 1 |  |  |  |  |
|  |  | PC := PC + 1 |  |  |  |  |  |  |  |  |  |
|  |  | JNZ |  |  |  |  |  |  |  |  |  |
|  |  | END\_COMMAND |  |  |  |  |  |  |  |  |  |

ADD R3:

00 MAR := PC

01 --> MRd

02 CR := MDR

03 PC := PC+1

04 RAR := CR5

05 RRd

06 DR := RDR

07 ALU <-- COP

08 Start ALU

09 END\_COMMAND

ADD @R3:

00 MAR := PC

01 --> MRd

02 CR := MDR

03 PC := PC+1

04 RAR := CR5

05 RRd

06 RA := RDR

07 MAR := RA

08 MRd

09 DR := MDR

10 ALU <-- COP

11 Start ALU

12 END\_COMMAND

ADD @R3+:

00 MAR := PC

01 --> MRd

02 CR := MDR

03 PC := PC+1

04 RAR := CR5

05 RRd

06 RA := RDR

07 MAR := RA

08 MRd

09 DR := MDR

10 INC\_GR

11 ALU <-- COP

12 Start ALU

13 END\_COMMAND

ADD -@R3:

00 MAR := PC

01 --> MRd

02 CR := MDR

03 PC := PC+1

04 RAR := CR5

05 DEC\_GR

06 RRd

07 RA := RDR

08 MAR := RA

09 MRd

10 DR := MDR

11 ALU <-- COP

12 Start ALU

13 END\_COMMAND

JRNZ R3, M1

00 MAR := PC

01 --> MRd

02 CR := MDR

03 PC := PC+1

04 RAR := CR2

05 DEC\_GR

06 JRNZ

07 END\_COMMAND

MOV R4, R2

00 MAR := PC

01 MRd

02 --> CR := MDR

03 PC := PC+1

04 RAR := CR5

05 RRd

06 RAR := CR4

07 RWr

08 END\_COMMAND

JMP M2:

00 MAR := PC

01 MRd

02 --> CR := MDR

03 PC := PC+1

04 PC := ADR

05 END\_COMMAND

CALL M3:

00 MAR := PC

01 MRd

02 CR := MDR

03 --> PC := PC+1

04 MDR := PC

05 SP := SP-1

06 MAR := SP

07 MWr

08 PC := ADR

09 END\_COMMAND

RET: PUSH R3:

00 MAR := PC

01 MRd

02 --> CR := MDR

03 PC := PC+1

04 RAR := CR5

05 RRd

06 MDR := RDR

07 SP := SP-1

08 MAR := SP

09 MWr

10 END\_COMMAND

POP R5:

00 MAR := PC

01 MRd

02 --> CR := MDR

03 PC := PC+1

04 MAR := SP

05 MRd

06 RDR := MDR

07 SP := SP+1

08 RAR := CR5

09 RWr

10 END\_COMMAND