Вариант 4

|  |  |  |  |
| --- | --- | --- | --- |
| Команда | NZCV | Действие | Результат |
| ldr r0, =0x12345678 | 0000 | r0 := 0x12345678 | r0 = 0x12345678 |
| movw r1, [#0xffff](https://vk.com/im?sel=169908979&st=%230xffff) | 0000 | r1 := [#0xffff](https://vk.com/im?sel=169908979&st=%230xffff) | r1 = [0xffff](https://vk.com/im?sel=169908979&st=%230xffff) |
| mov r2, r1, ror #16 | 0000 | r2 := r1цикл. сдв. в пр. на 16 | r2 = 0xFF FF 00 00 |
| mov r3, [#0x05](https://vk.com/im?sel=169908979&st=%230x05) | 0000 | r3 := [#0x05](https://vk.com/im?sel=169908979&st=%230x05) | r3 = [0x05](https://vk.com/im?sel=169908979&st=%230x05) |
| tsts r3, #1 | 0000 |  |  |
| andne r4, r0, r1 | 0000 | r4 := r0 & r1 | r4 = 0x56 78 |
| andeq r4, r0, r2 | 0000 | ––– | ––– |
| tsts r3, #2 | 0100 |  |  |
| orrne r5, r0, r1 | 0100 | ––– | ––– |
| orreq r5, r0, r2 | 0100 | r5 := r0 | r2 | r5 = 0xFF FF 56 78 |
| tsts r3, #4 | 0000 |  |  |
| eorne r6, r0, r1 | 0000 | r6 := r0 eor r1 | r5 = 0x12 34 A9 87 |
| eoreq r6, r0, r2 | 0000 | ––– | ––– |
| and r7, r0,[#0xff](https://vk.com/im?sel=169908979&st=%230xff) | 0000 | r7 := r0 & #0xFF | r7 = 0x78 |
| and r8, r0,[#0xff00](https://vk.com/im?sel=169908979&st=%230xff00) | 0000 | r8 := r0 & #0xFF00 | r8 = 0x56 00 |
| lsr r8, r8, #8 | 0000 | r8 := r8 лог. сдв. в пр. на 8 | r8 = 0x56 |
| and r9, r0, [#0xff0000](https://vk.com/im?sel=169908979&st=%230xff0000) | 0000 | r9:= r0 & [#0xff0000](https://vk.com/im?sel=169908979&st=%230xff0000) | r9 = 0x34 00 00 |
| lsr r9 ,r9, #16 | 0000 | r9 := r9 лог. сдв. в пр. на 16 | r9 = 0x34 |
| and r10, r0, [#0xff000000](https://vk.com/im?sel=169908979&st=%230xff000000) | 0000 | r10 := r0 & [#0xff000000](https://vk.com/im?sel=169908979&st=%230xff000000) | r10 = 0x12 00 00 00 |
| lsr r10,r10, #24 | 0000 | r10 := r10 лог. сдв. в пр. на 24 | r10 =0x12 |
| bx lr |  |  |  |
| pp2 |  |  |  |
| mov r0, [#0x20000000](https://vk.com/im?sel=169908979&st=%230x20000000) | 0000 | r0 := [#0x20000000](https://vk.com/im?sel=169908979&st=%230x20000000) | r0 = [#0x20000000](https://vk.com/im?sel=169908979&st=%230x20000000) |
| mov r1, [#0x22000000](https://vk.com/im?sel=169908979&st=%230x22000000) | 0000 | r1 := [#0x22000000](https://vk.com/im?sel=169908979&st=%230x22000000) | r1 = [0x22000000](https://vk.com/im?sel=169908979&st=%230x22000000) |
| mov r2, #0 | 0000 | r2 := 0 | r2 = 0 |
| mov r3, #1 | 0000 | r3 := 1 | r3 = 1 |
| str r2, [r0] | 0000 | M(r0) := r2 | M(0x20000000) = 0 |
| str r3, [r1] | 0000 | M(r1) := r3 | M(0x20000000) = 0x01 |
| str r3, [r1,[#0x04](https://vk.com/im?sel=169908979&st=%230x04)] | 0000 | M(0x22000004):= r3 | M(0x20000000) = 0x03 |
| str r3, [r1,[#0x08](https://vk.com/im?sel=169908979&st=%230x08)] | 0000 | M(0x22000008) := r3 | M(0x20000000) = 0x07 |
| str r3, [r1,[#0x0c](https://vk.com/im?sel=169908979&st=%230x0c)] | 0000 | M(0x2200000C) := r3 | M(0x20000000) = 0x0F |
| ldr r5, [r1,[#0x08](https://vk.com/im?sel=169908979&st=%230x08)] | 0000 | r5:= M(0x2200000C) | r5 = 1 |
| ldr r6, [r0] | 0000 | r6:= M(0x20000000) | r6 = 0x0F |
| mov r7, [#0x0a](https://vk.com/im?sel=169908979&st=%230x0a) | 0000 | r7:=[0x0a](https://vk.com/im?sel=169908979&st=%230x0a) | r7=[0x0a](https://vk.com/im?sel=169908979&st=%230x0a) |
| str r7, [r0,[#0x03](https://vk.com/im?sel=169908979&st=%230x03)] | 0000 | M(0x20000003) := r7 | M(0x20000003) = 0x0A |
| str r2, [r1,[#0x64](https://vk.com/im?sel=169908979&st=%230x64)] | 0000 | M(0x22000064) := r2 | M(0x20000003) = 0x08 |
| str r2, [r1,[#0x6c](https://vk.com/im?sel=169908979&st=%230x6c)] | 0000 | M(0x2200006c) := r2 | M(0x20000003) = 0x00 |
| ldr r8, [r0,[#0x03](https://vk.com/im?sel=169908979&st=%230x03)] | 0000 | r8:= M(0x20000000) | r8 = 0 |
| bx lr |  |  |  |
|  |  |  |  |
|  |  |  |  |

2)A=-45 B=780 C=45 D=21

|  |  |  |  |
| --- | --- | --- | --- |
| Команда | NZCV | Действие | Результат |
| mov r0, #-45 |  | r0 := -45 | r0 = 0xFF FF FF D3 |
| mov r1, #780 |  | r1 := 780 | r1 = 0x03 0C |
| mov r2, #45 |  | r2 := 45 | r2 = 0x2D |
| mov r3, #21 |  | r3 := 21 | r3 = 0x15 |
| lsl r5, r0, #4 |  |  | r5 = 0xFF FF FD 30 |
| lsl r6, r2, #4 |  |  | r6 = 0x30 C0 |
| lsl r7, r3, #4 |  |  | r7 = 0x02 D0 |
| lsl r8, r3, #4 |  |  | r8 = 0x01 50 |
| asr r5, r0, #4 |  |  | r5 = 0xFF FF FF FD |
| asr r6, r1, #4 |  |  | r6 = 0x30 |
| asr r7, r2, #4 |  |  | r7 = 0x02 |
| asr r8, r3, #4 |  |  | r8 = 0x01 |
| lsr r5, r0, #4 |  |  | r5 = 0x0F FF FF FD |
| lsr r6, r1, #4 |  |  | r6 = 0x30 |
| lsr r7, r2, #4 |  |  | r7 = 0x02 |
| lsr r8, r3, #4 |  |  | r8 = 0x01 |
| ror r5, r0, #4 |  |  | r5 = 0x3F FF FF FD |
| ror r6, r1, #4 |  |  | r6 = 0xC0 00 00 30 |
| ror r7, r2, #4 |  |  | r7 = 0xD0 00 00 02 |
| ror r8, r3, #4 |  |  | r8 = 0x50 00 00 01 |
| rrxs r5, r0 | 0010 |  | r5 = 0x7F FF FF E9 |
| rrxs r6, r2, | 1010 |  | r6 = 0x80 00 00 16 |
| rrxs r7, r3 | 1010 |  | r7 = 0x80 00 00 0A |
| rrxs r8, r4 | 1000 |  | r8 = 0x80 00 00 00 |

3)

|  |  |  |  |
| --- | --- | --- | --- |
| Команда | NZCV | Действие | Результат |
| mov r0, #-45 |  | r0 := -45 | r0 = 0xFF FF FF D3 |
| mov r1, #780 |  | r1 := 780 | r1 = 0x03 0C |
| mov r2, #45 |  | r2 := 45 | r2 = 0x2D |
| mov r3, #21 |  | r3 := 21 | r3 = 0x15 |
| add r0, r1 |  | r0 := r0 + r1 | r0 = 0x02 DF |
| add r0, r2 |  | r0 := r0 + r2 | r0 = 0x03 0C |
| add r0, r3 |  | r0 := r0 + r3 | r0 = 0x03 21 |
| mov r0, #-45 |  | r0 := -45 | r0 = 0xFF FF FF D3 |
| eor r0, r1 |  | r0 := r0 eor r1 | r0 = 0xFF FF FC DF |
| eor r0, r2 |  | r0 := r0 eor r2 | r0 = 0xFF FF FC F2 |
| eor r0, r3 |  | r0 := r0 eor r3 | r0 = 0xFF FF FC E7 |