

| PC | Machine Code | Basic Code | Original Code | Result |
|------|--------------|------------------|----------------------|---------------------|
| 0x0 | 0x00000013 | addi x0 x0 0 | main: addi x0,x0,0x0 | |
| 0x4 | 0x00100093 | addi x1 x0 1 | addi x1,x0,0x1 | #x1 = 0x1 |
| 0x8 | 0x00100113 | addi x2 x0 1 | addi x2,x0,0x1 | #x2 = 0x1 |
| 0xc | 0x00100193 | addi x3 x0 1 | addi x3,x0,0x1 | #x3 = 0x1 |
| 0x10 | 0x00100213 | addi x4 x0 1 | addi x4,x0,0x1 | #x4 = 0x1 |
| 0x14 | 0x00802283 | lw x5 8(x0) | lw x5,0x8(x0) | #x5 = 0x80000000 |
| 0x18 | 0x00128333 | add x6 x5 x1 | add x6,x5,x1 | #x6 = 0x80000001 |
| 0x1c | 0x0020C3B3 | xor x7 x1 x2 | xor x7,x1,x2 | #x7 = 0 |
| 0x20 | 0x40708433 | sub x8 x1 x7 | sub x8,x1,x7 | #x8 = 0x1 |
| 0x24 | 0xFFFF1E493 | ori x9 x3 -1 | ori x9,x3,-1 | #x9 = 0xFFFFFFFF |
| 0x28 | 0x00327533 | and x10 x4 x3 | and x10,x4,x3 | #x10= 0x1 |
| 0x2c | 0x00502223 | sw x5 4(x0) | sw x5,0x4(x0) | #mem(1)= 0x80000000 |
| 0x30 | 0x005325B3 | slt x11 x6 x5 | slt x11,x6,x5 | #x11= 0x0 |
| 0x34 | 0x0AA3C613 | xori x12 x7 170 | xori x12,x7,0xAA | #x12= 0xAA |
| 0x38 | 0x00818663 | beq x3 x8 12 | beq x3,x8,loop1 | |
| 0x3c | 0x00000013 | addi x0 x0 0 | addi x0,x0,0x0 | |
| 0x40 | 0x00000033 | add x0 x0 x0 | add x0,x0,x0 | |
| 0x44 | 0x0012D6B3 | srl x13 x5 x1 | loop1:srl x13,x5,x1 | #x13= 0x40000000 |
| 0x48 | 0x00147713 | andi x14 x8 1 | andi x14,x8,0x1 | #x14= 0x1 |
| 0x4c | 0x0034E7B3 | or x15 x9 x3 | or x15,x9,x3 | #x15= 0xFFFFFFFF |
| 0x50 | 0x00A50833 | add x16 x10 x10 | add x16,x10,x10 | #x16= 0x2 |
| 0x54 | 0x0085C8B3 | xor x17 x11 x8 | xor x17,x11,x8 | #x17= 0x1 |
| 0x58 | 0x00402903 | lw x18 4(x0) | lw x18,0x4(x0) | #x18= 0x80000000 |
| 0x5c | 0x004629B3 | slt x19 x12 x4 | slt x19,x12,x4 | #x19= 0 |
| 0x60 | 0x0016DA13 | srli x20 x13 1 | srli x20,x13,0x1 | #x20= 0x20000000 |
| 0x64 | 0x00A77AB3 | and x21 x14 x10 | and x21,x14,x10 | #x21= 0x1 |
| 0x68 | 0x00C71463 | bne x14 x12 8 | bne x14,x12,loop2 | |
| 0x6c | 0x00000013 | addi x0 x0 0 | addi x0,x0,0x0 | |
| 0x70 | 0x40128B33 | sub x22 x5 x1 | loop2:sub x22,x5,x1 | #x22= 0x7FFFFFFF |
| 0x74 | 0x00150B93 | addi x23 x10 1 | addi x23,x10,0x1 | #x23= 0x2 |
| 0x78 | 0x00986C33 | or x24 x16 x9 | or x24,x16,x9 | #x24= 0xFFFFFFFF |
| 0x7c | 0x00B9CCB3 | xor x25 x19 x11 | xor x25,x19,x11 | #x25= 0x0 |
| 0x80 | 0x0FFA7D13 | andi x26 x20 255 | andi x26,x20,0xFF | #x26= 0x200000FF |
| 0x84 | 0x00390DB3 | add x27 x18 x3 | add x27,x18,x3 | #x27= 0x80000001 |
| 0x88 | 0x002A5E33 | srl x28 x20 x2 | srl x28,x20,x2 | #x28= 0x10000000 |
| 0x8c | 0x0AF9EE93 | ori x29 x19 175 | ori x29,x19,0xAF | #x29= 0xAF |
| 0x90 | 0x001A0F33 | add x30 x20 x1 | add x30,x20,x1 | #x30= 0x20000001 |
| 0x94 | 0x00802F83 | lw x31 8(x0) | lw x31,0x8(x0) | #x31= 0x80000000 |
| 0x98 | 0xF69FF06F | jal x0 -152 | jal x0,main | |
| 0x9c | 0x001A8A93 | addi x21 x21 1 | addi x21,x21,0x1 | #x21=? |
| 0xa0 | 0x001B8B93 | addi x23 x23 1 | addi x23,x23,0x1 | #x23=? |
| 0xa4 | 0x001C8C93 | addi x25 x25 1 | addi x25,x25,0x1 | #x25=? |