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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HLL | ASSEMBLY CODE | | | | | | MACHINE CODE | |
| SECTION | LABEL | MNEMO | OPERANDS | | COMMENTS | ADDR | CONT |
| OP1 | OP2 |
|  | .code |  |  |  |  |  |  |  |
| Input x; |  |  | LDI | R0 | 0xFD | R0🡨 Dirección puerto ESW | 00 | 10 |
|  |  |  |  |  |  |  | 01 | FD |
|  |  |  | LDI | R1 | 0X01 | R1🡨0x01 (Indicación ledInX On) | 02 | 14 |
|  |  |  |  |  |  |  | 03 | 01 |
|  |  |  | ST | R1 | R0 | ESW🡨0X01, Se enciende ledInX (R0🡨R1) | 04 | 34 |
|  |  |  | LDI | R0 | 0xFF | R0🡨 Dirección puerto de entrada Din | 05 | 10 |
|  |  |  |  |  |  |  | 06 | FF |
|  |  |  | ST | R0 | R0 | En el registro Din que está en la posición 0xFF (R0) se guarda el dato que se ingrese | 07 | 30 |
|  |  |  | LD | R1 | R0 | R1🡨Din | 08 | 24 |
|  |  |  | LDI | R0 | X | R0🡨 Dirección de memoria de la variable x | 09 | 10 |
|  |  |  |  |  |  |  | 0A | 29 |
|  |  |  | ST | R1 | R0 | R0🡨R1 (Almacena R1 en R0 x🡨Din) | 0B | 34 |
| Input y; |  |  | LDI | R0 | 0xFD | R0🡨 Dirección puerto ESW | 0C | 10 |
|  |  |  |  |  |  |  | 0D | FD |
|  |  |  | LDI | R2 | 0X02 | R2🡨0x02 (Indicación ledInY On) | 0E | 18 |
|  |  |  |  |  |  |  | 0F | 02 |
|  |  |  | ST | R2 | R0 | ESW🡨0X02, Se enciende ledInY (R0🡨R1) | 10 | 38 |
|  |  |  | LDI | R0 | 0XFF | R0🡨 Dirección puerto Entrada Din | 11 | 10 |
|  |  |  |  |  |  |  | 12 | FF |
|  |  |  | ST | R0 | R0 | 0Xff🡨 dato de entrada Din | 13 | 30 |
|  |  |  | ld | R2 | R0 | R2🡨Din (R2🡨y) | 14 | 28 |
|  |  |  | LDI | R0 | Y | R0🡨Posición de memoria variable y | 15 | 10 |
|  |  |  |  |  |  |  | 16 | 2A |
|  |  |  | ST | R2 | R0 | Y🡨Din (En R0, posición de memoria variable y, guarde R2, Din) | 17 | 38 |
| Output x+y; |  |  | LDI | R0 | 0xFD | R0🡨 Dirección puerto ESW | 18 | 10 |
|  |  |  |  |  |  |  | 19 | FD |
|  |  |  | LDI | R3 | 0X04 | R3🡨0x04 (Indicación ledInX On) | 1A | 1C |
|  |  |  |  |  |  |  | 1B | 04 |
|  |  |  | ST | R3 | R0 | ESW🡨0X04, Se enciende ledResult (R0🡨R3) | 1C | 3C |
|  |  |  | ADD | R2 | R1 | R2🡨R2+R1 (X+Y); | 1D | 49 |
|  |  |  | LDI | R0 | 0XFE | R0🡨Dirección puerto de salida Dout | 1E | 10 |
|  |  |  |  |  |  |  | 1F | FE |
|  |  |  | ST | R2 | R0 | R0🡨R2(Puerto salida Dout🡨x+y) | 20 | 38 |
|  |  |  | LDI | R0 | 0xFD | R0🡨 Dirección puerto ESW | 21 | 10 |
|  |  |  |  |  |  |  | 22 | FD |
|  |  |  | LDI | R3 | 0X08 | R3🡨0x08 (Indicación ledDone On) | 23 | 1C |
|  |  |  |  |  |  |  | 24 | 08 |
|  |  |  | ST | R3 | R0 | ESW🡨0X08, Se enciende ledDone (R0🡨R3) | 25 | 3C |
|  |  | loop | LDI | R0 | Loop | Ciclo infinito | 26 | 10 |
|  |  |  |  |  |  |  | 27 | 26 |
|  |  |  | jmp | R0 |  | Ciclo infinito | 28 | 80 |
|  | .data |  |  |  |  |  |  |  |
|  |  | X; |  |  |  |  | 29 |  |
|  |  | Y; |  |  |  |  | 2A |  |
|  |  |  |  |  |  |  |  |  |
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| Labels table | |
| label | value |
| LOOP | 0X26 |
|  |  |
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|  |  |
| --- | --- |
| Variables table | |
| variable | value |
| X | 0X29 |
| Y | 0X2A |
|  |  |