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| --- | --- | --- | --- | --- | --- | --- | --- |
| HLL | ASSEMBLY CODE | | | | | MACHINE CODE | |
| SECTION | LABEL | MNEMO | OPERANDS | COMMENTS | ADDR | CONT |
|  | .code |  |  |  | ROM: |  |  |
| Input X |  |  | inA |  |  | 00 | 400 |
|  |  |  | storeA | X |  | 01 | 100 |
| Input Y |  |  | inA |  |  | 02 | 400 |
|  |  |  | storeA | Y |  | 03 | 101 |
| Z=0 |  |  | loadA | cero |  | 04 | 003 |
|  |  |  | storeA | Z |  | 05 | 102 |
| If(X>Y){ |  |  | loadA | X |  | 06 | 000 |
|  |  |  | subA | Y | A 🡨 X-Y | 07 | 301 |
|  |  |  | jneg | End\_if | If A<0 (X<Y) goto end\_if | 08 | 70F |
|  |  |  | jz | End\_if |  | 09 | 80F |
| Z=X+Y |  |  | loadA | X |  | 0A | 000 |
|  |  |  | addA | Y |  | 0B | 201 |
|  |  |  | storeA | Z |  | 0C | 102 |
| Z=Z+5 |  |  | addA | cinco |  | 0D | 204 |
|  |  |  | storeA | Z |  | 0E | 102 |
| } output Z |  | End\_if: | loadA | Z |  | 0F | 002 |
|  |  |  | outA |  |  | 10 | 500 |
| end |  |  | halt |  |  | 11 | B00 |
|  |  |  |  |  |  |  |  |
|  | .data |  |  |  | RAM: |  |  |
|  |  | X: |  |  |  | 00 |  |
|  |  | Y: |  |  |  | 01 |  |
|  |  | cero: |  |  |  | 02 | 00 |
|  |  | cinco: |  |  |  | 03 | 05 |
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| Instruction Labels table | |
| label | ADDR  ROM |
| End\_if | 0E |
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| --- | --- | --- |
| Data Labels table | | |
| variable | ADDR  RAM | CONT |
| X | 00 | ?? |
| Y | 01 | ?? |
| Z | 02 | ?? |
| cero | 03 | 00 |
| cinco | 04 | 05 |
|  |  |  |
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