405410077鄭傑予

7.36

(a)

|  |  |  |
| --- | --- | --- |
| Location | Number | Instruction |
| 00 | +2011 | Load Count |
| 01 | +4209 | Branch zero to 09 |
| 02 | +3112 | Sub One |
| 03 | +2111 | Store Ten |
| 04 | +1013 | Read A |
| 05 | +2013 | Load A |
| 06 | +3014 | Add B |
| 07 | +2114 | Store B |
| 08 | +4000 | Branch to 00 |
| 09 | +1114 | Write B |
| 10 | +4300 | Halt |
| 11 | +0010 | Variable Count |
| 12 | +0001 | Variable One |
| 13 | +0000 | Variable A |
| 14 | +0000 | Variable B |

(b)

|  |  |  |
| --- | --- | --- |
| Location | Number | Instruction |
| 00 | +2014 | Load Count |
| 01 | +4209 | Branch zero to 09 |
| 02 | +3115 | Sub One |
| 03 | +2114 | Store Count |
| 04 | +1017 | Read A |
| 05 | +2017 | Load A |
| 06 | +3018 | Add B |
| 07 | +2118 | Store B |
| 08 | +4000 | Branch to 00 |
| 09 | +2018 | Load B |
| 10 | +3216 | Divide Seven |
| 11 | +2118 | Store B |
| 12 | +1118 | Write B |
| 13 | +4300 | Halt |
| 14 | +0007 | Variable Count |
| 15 | +0001 | Variable One |
| 16 | +0007 | Variable Seven |
| 17 | +0000 | Variable A |
| 18 | +0000 | Variable B |

(c)

|  |  |  |
| --- | --- | --- |
| Location | Number | Instruction |
| 00 | +1014 | Read Count |
| 01 | +2014 | Load Count |
| 02 | +4212 | Branch zero to 12 |
| 03 | +3115 | Sub One |
| 04 | +2114 | Store Count |
| 05 | +1016 | Read A |
| 06 | +2016 | Load A |
| 07 | +3117 | Sub B |
| 08 | +4101 | Branch negative to 01 |
| 09 | +2016 | Load A |
| 10 | +2117 | Store B |
| 11 | +4001 | Branch to 01 |
| 12 | +1117 | Write B |
| 13 | +4300 | Halt |
| 14 | +0000 | Variable Count |
| 15 | +0001 | Variable One |
| 16 | +0000 | Variable A |
| 17 | +0000 | Variable B |