**Problem #4**: Write run a program that will display on the data field of the SDK 85 a counter mod 10, where the time interval between digits follows a Fibonacci sequence

sequence: 1,1,2,3,5,8,13,21,34,55 (delay in seconds)

display: 0,1,2,3,4,5,6,7,8,9

Required stored memory:

|  |  |  |
| --- | --- | --- |
| Address | Data | Base 10 integer |
| 20C0 | 02 | 02 |
| 20C1 | 02 | 02 |
| 20C2 | 04 | 04 |
| 20C3 | 06 | 06 |
| 20C4 | 0A | 10 |
| 20C5 | 10 | 16 |
| 20C6 | 1A | 26 |
| 20C7 | 2A | 42 |
| 20C8 | 44 | 68 |
| 20C9 | 6E | 110 |
| 20CA | ----------- | ----------------- |

|  |  |  |
| --- | --- | --- |
| Address | Data | Mnemonics |
| 2000 | 31 | LXI SP, 20F2 |
| 2001 | F2 |
| 2002 | 20 |
| 2003 | 21 | LXI H, 20C0 |
| 2004 | C0 |
| 2005 | 20 |
| 2006 | 3E | MVI A, 00 |
| 2007 | 0A |
| 2008 | E5 | PUSH H |
| 2009 | F5 | PUSH PSW |
| 200A | CD | Display A |
| 200B | 6E |
| 200C | 03 |
| 200D | E1 | POP H |
| 200E | E5 | PUSH H |
| 200F | 7E | MOV A, M |
| 2010 | F5 | PUSH PSW |
| 2011 | 11 | LXI D, F699 |
| 2012 | 97 |
| 2013 | F6 |
| 2014 | 1B | DCX D |
| 2015 | 7A | MOV A, D |
| 2016 | B3 | ORA E |
| 2017 | C2 | JNZ 2014 |
| 2018 | 14 |
| 2019 | 20 |
| 201A | F1 | POP PSW |
| 201B | 3D | DCR A |
| 201C | C2 | JNZ 2010 |
| 201D | 10 |
| 201E | 20 |
| 201F | F1 | POP PSW |
| 2020 | 3C | INR A |
| 2021 | E1 | POP H |
| 2022 | 23 | INX H |
| 2023 | 7D | MOV A, L |
| 2024 | FE | CPI CA |
| 2025 | 0C |
| 2026 | C2 | JNZ 2008 |
| 2027 | 10 |
| 2028 | 20 |
| 2029 | CF | RST1 |