**WRITE AN ASSEMBLY LEVEL PROGRAM TO CONVERT GIVEN HEXA DECIMAL NUMBER INTO ITS EQUIVALENT BCD NUMBER USING 8085.**

**ALGORITHM:**

1. Start the microprocessor.
2. Initialize memory pointer to 4150 H.
3. Get the HEXA decimal number in register C.
4. Perform repeated addition for C number of times.
5. Adjust for BCD in each step.
6. Store the BCD data in Memory.

**PROGRAM**:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ADDRESS** | **LABEL** | **OPCODE/OPERAND** | **COMMENTS** |  |  |  |
|  |  | LXI H,4150 | Initialize memory pointer |  |  |  |
|  |  | MVI D,00 | Clear register D for Most Significant Byte |  |  |  |
|  |  | XRA A | Clear Accumulator |  |  |  |
|  |  | MOV C,M | Get HEX data |  |  |  |
|  | LOOP2: | ADI 01 | Count the number one by one |  |  |  |
|  |  | DAA | Adjust for BCD count |  |  |  |
|  |  | JNC LOOP1 |  |  |  |  |
|  |  | INR D |  |  |  |  |
|  | LOOP1: | DCR C |  |  |  |  |
|  |  | JNZ LOOP2 |  |  |  |  |
|  |  | STA 4151 | Store the Least Significant Byte |  |  |  |
|  |  | MOV A,D |  |  |  |  |
|  |  | STA 4152 | Store the Most Significant Byte |  |  |  |
|  |  | HLT |  |  |  |  |
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**OBSERVATION:**

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| --- | --- |
| 4150 | FF |
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**OUTPUT:**

|  |  |
| --- | --- |
| 4151 | 55(LSB) |
| 4152 | 02(MSB) |
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