IDE ASSIGNMENT

AVR-GCC
Pavan NagaSurya Cheemalamarry
pavannagasuryach18.555@gmail.com
IITH - Future Wireless Communication (FWC22137)

Contents

1 problem **1**

2 components **1**
2.1 Arduino 1

3 Implementation **1**
3.1 Equation 1

4 Hardware **2**

5 Conclusion **2**

1 problem

(GATE2020-QP-EE)
Q.54 An 8085 microprocessor accesses two memory locations (2001H) and (2002H), that contain 8-bit numbers 98H and B1H, respectively.
Thhe following program is executed:
LXI H, 2001H
MVI A, 21H
INX H
ADD M
INX H
MOV M, A
HLT
At the end of this program, the memory location 2003H contains the number in decimal (base10) from

2 components

Components	Value	Quantity
Breadboard		1
Arduino	uno	1
Jumper Wires		4

2.1 Arduino

The Arduino Uno has some ground pins. analog input pins A0-A3 and digital pins D1-D13 that can be used for both input as well as output. It also has two power pins that can generate 3.3V and 5V . In the following exercise, We use digital pins, GND and 5V

3 Implementation

3.1 Equation

LXI, 2001H;H = 20 H, L =01 H
MVI A,21H;A = 21 H
INX H;HL + 1 $\rightarrow$ H =20 H, L = 02 H $\rightarrow$ HL = 2002 H
ADD M; [A] + Refeerence data of HL pair = 21 H + B1 H = D2H $\rightarrow$ [A]
INX H; [HL] +1 $\rightarrow$ 002 H + 1 H $\rightarrow$ 2002 H
MOV M,A;[A] to memory, reference of HL pair, 2003 H [D2] [D2] =A

HLT; Stop
Converting in decimal
210

4 Hardware

1. Connect one end of jumper wire to the ground pin on the Arduino and other end to the breadboard's ground rail.
2. Connect theone terminal of jumper wire to the input pin of Arduino and other end to the positive rail on breadboard.
3. Connect one end of another jumper wire to the input pin of Arduino and other end to the positive rail.
4. Enable the power supply to breaboard from Arduino by connecting one end of jumper wire to the power pin of arduino and other end to the positive rail on breadboard.

5 Conclusion

Hence, we have implemented the above problem using the code below :

https://github.com/pavannagasuryach/cbse-12th-optimization/tree/main/IDE/AVR-GCC