

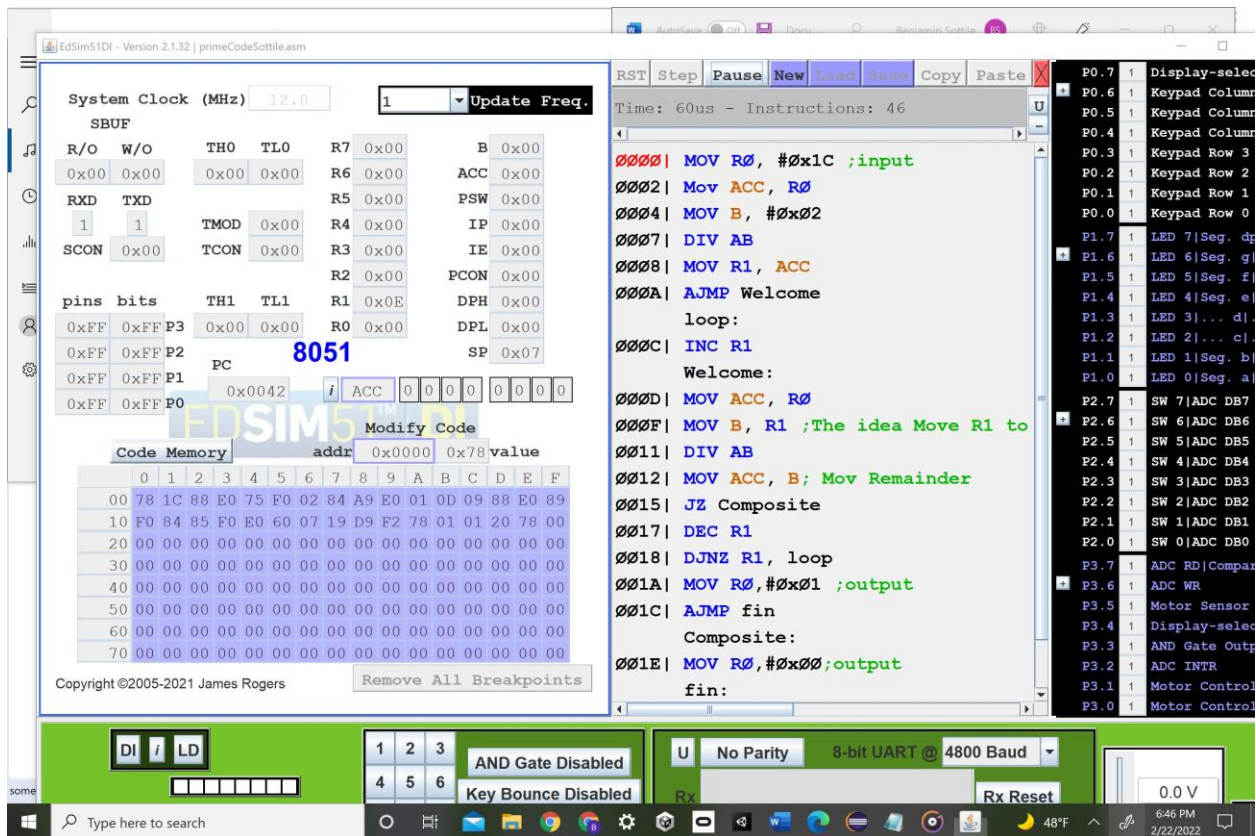
## Prime Numbers

## Reflective Essay

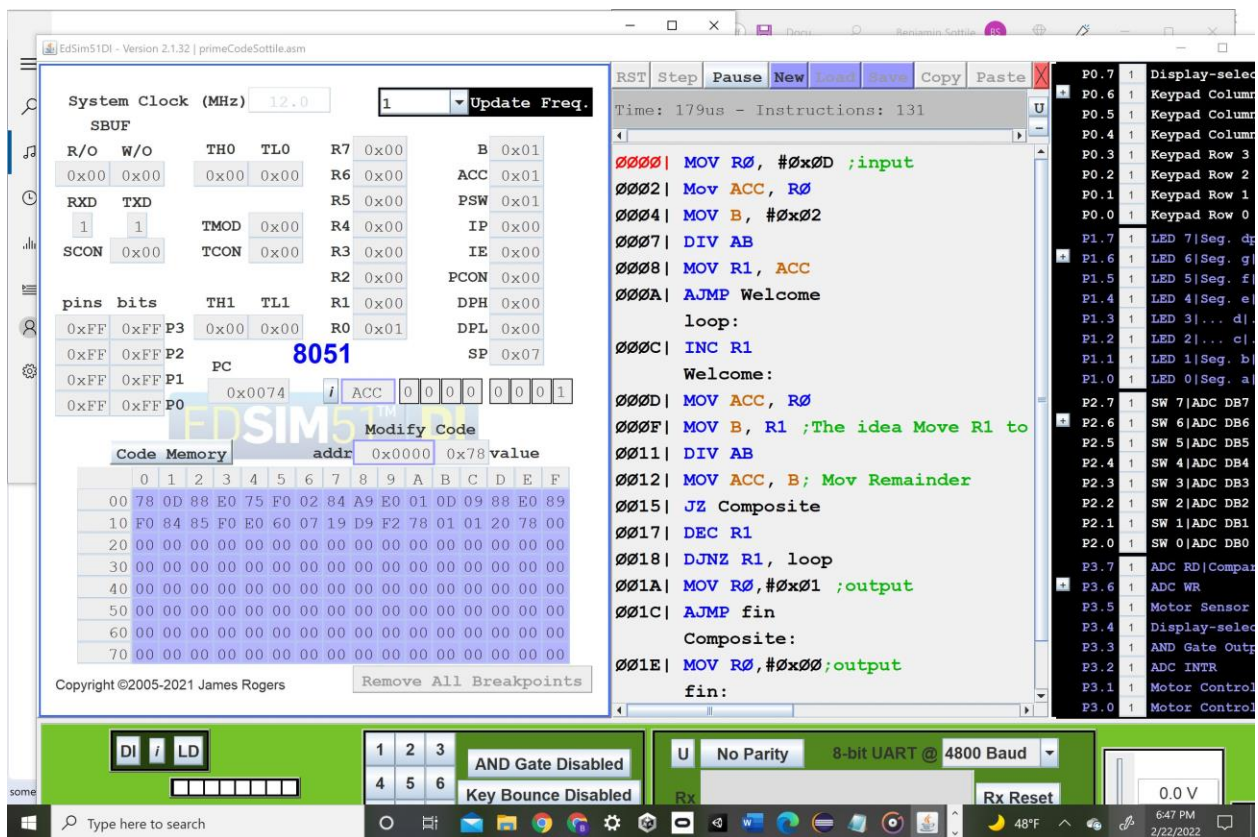
I was successful in writing the program to specifications. The program successfully completes all its tests and produces the desired results. I had some trouble coping on register to another and utilizing JZ. I also had to adjust my thinking to translate loop logic to assembly loop logic.

B. Screen-shot of your program's output when run with the following inputs:

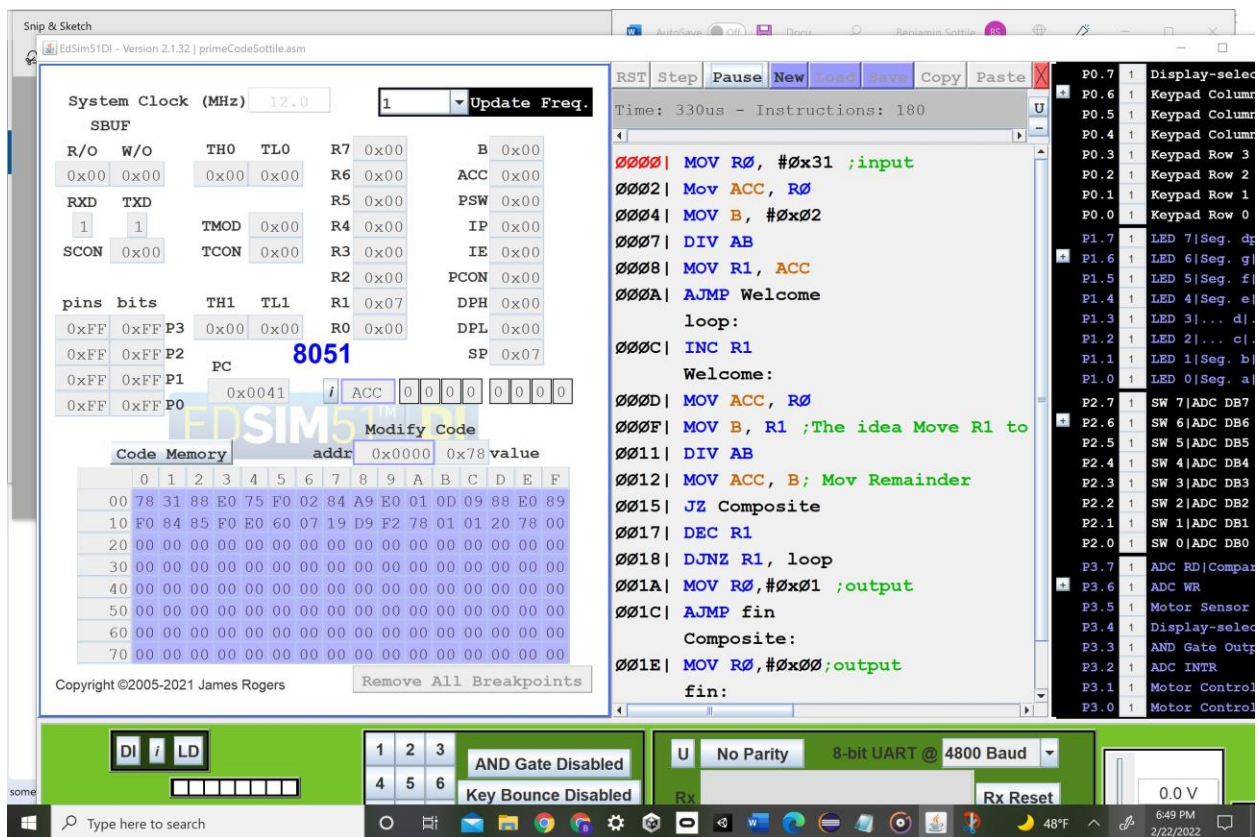
i. MOV R0, 0x1C



ii. MOV R0, 0x0D



iii. MOV R0, 0x31



iv. MOV R0, 0x2F

EdSim51DI - Version 2.1.32 | primeCodeSottile.asm

System Clock (MHz) 12.0 1 Update Freq.

SBUF

R/O	W/O	TH0	TL0	R7	0x00	B	0x01
0x00	0x00	0x00	0x00	R6	0x00	ACC	0x01
RXD	TXD			R5	0x00	PSW	0x01
1	1	TMOD	0x00	R4	0x00	IP	0x00
SCON	0x00	TCON	0x00	R3	0x00	IE	0x00
				R2	0x00	PCON	0x00
pins	bits	TH1	TL1	R1	0x00	DPH	0x00
0xFF	0xFF	P3	0x00	R0	0x01	DPL	0x00
0xFF	0xFF	P2				SP	0x07
0xFF	0xFF	P1					
0xFF	0xFF	P0					

PC 0x0039 i ACC 0 0 0 0 0 0 0 1

Code Memory

addr	0x0000	0x78	value
0	78	2F	88 E0 75 F0 02 84 A9 E0 01 0D 09 88 E0 89
10	F0	84	85 F0 E0 60 07 19 D9 F2 78 01 01 20 78 00
20	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
50	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
60	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
70	00	00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

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8051

Time: 392us - Instructions: 208

```
0000| MOV R0, #0x2F ;input
0002| Mov ACC, R0
0004| MOV B, #0x02
0007| DIV AB
0008| MOV R1, ACC
000A| AJMP Welcome
loop:
000C| INC R1
Welcome:
000D| MOV ACC, R0
000F| MOV B, R1 ;The idea Move R1 to
0011| DIV AB
0012| MOV ACC, B; Mov Remainder
0015| JZ Composite
0017| DEC R1
0018| DJNZ R1, loop
001A| MOV R0, #0x01 ;output
001C| AJMP fin
Composite:
001E| MOV R0, #0x00 ;output
fin:
```

P0.7 1 Display-select  
P0.6 1 Keypad Column  
P0.5 1 Keypad Column  
P0.4 1 Keypad Column  
P0.3 1 Keypad Row 3  
P0.2 1 Keypad Row 2  
P0.1 1 Keypad Row 1  
P0.0 1 Keypad Row 0  
P1.7 1 LED 7|Seg. dp  
P1.6 1 LED 6|Seg. gl  
P1.5 1 LED 5|Seg. fl  
P1.4 1 LED 4|Seg. el  
P1.3 1 LED 3|... dl  
P1.2 1 LED 2|... cl  
P1.1 1 LED 1|Seg. bl  
P1.0 1 LED 0|Seg. al  
P2.7 1 SW 7|ADC DB7  
P2.6 1 SW 6|ADC DB6  
P2.5 1 SW 5|ADC DB5  
P2.4 1 SW 4|ADC DB4  
P2.3 1 SW 3|ADC DB3  
P2.2 1 SW 2|ADC DB2  
P2.1 1 SW 1|ADC DB1  
P2.0 1 SW 0|ADC DB0  
P3.7 1 ADC RD|Compar  
P3.6 1 ADC WR  
P3.5 1 Motor Sensor  
P3.4 1 Display-select  
P3.3 1 AND Gate Outp  
P3.2 1 ADC INTER  
P3.1 1 Motor Control  
P3.0 1 Motor Control

DI i LD

1 2 3 AND Gate Disabled  
4 5 6 Key Bounce Disabled

U No Parity 8-bit UART @ 4800 Baud

Rx Rx Reset

0.0 V

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