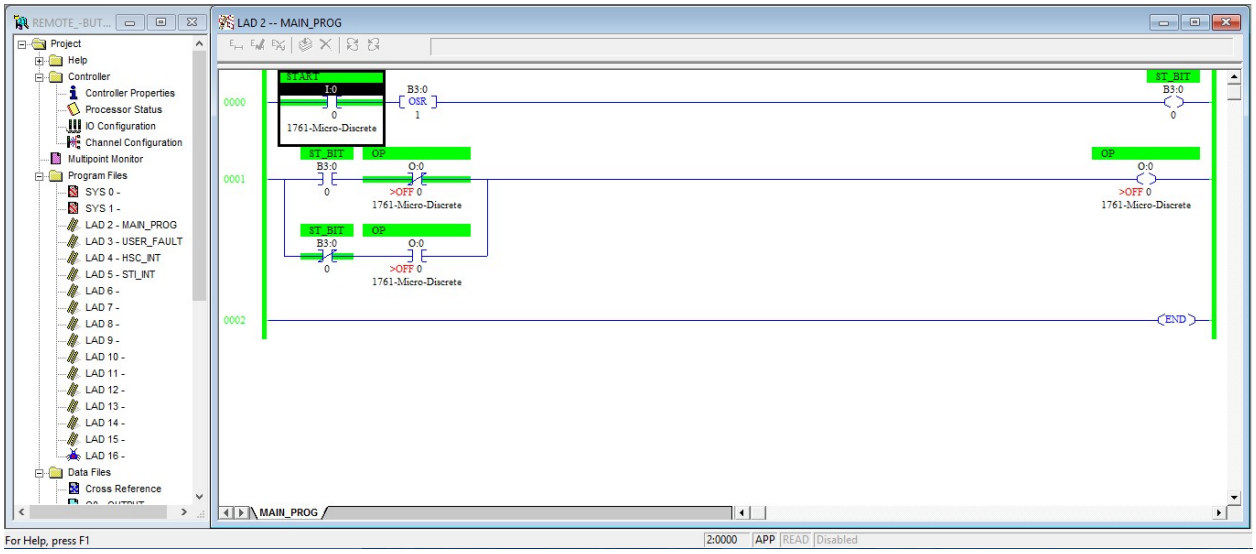
EXPERIMENT-12

AIM – To develop automation Project for Industrial problem using Wonderware InTouch and RsLogix500

EXERCISE – Class exercise on:

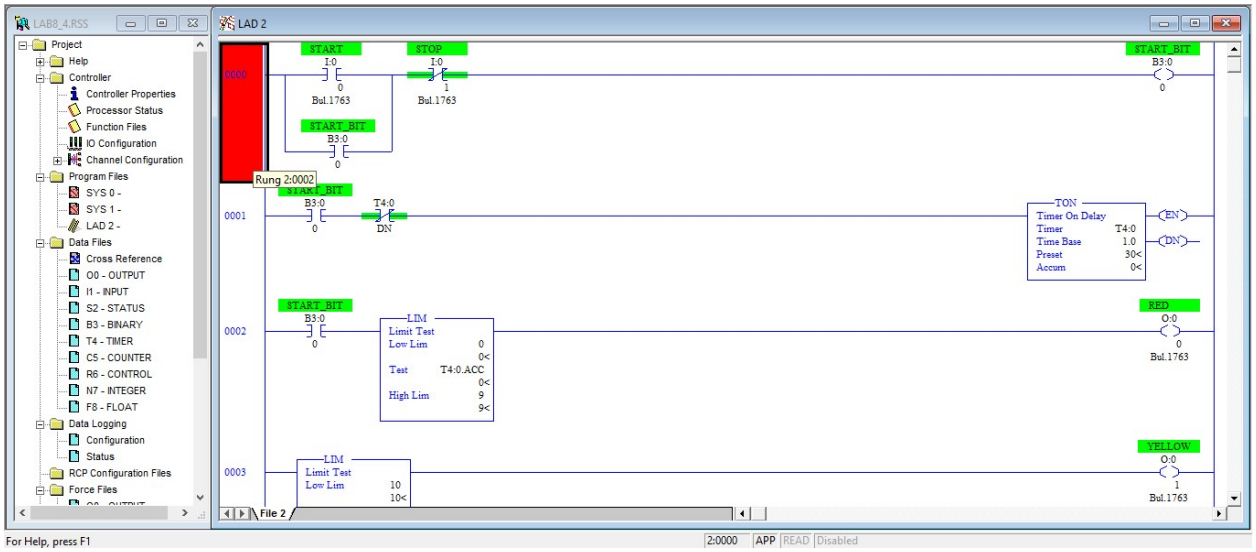
1)Bit Instruction

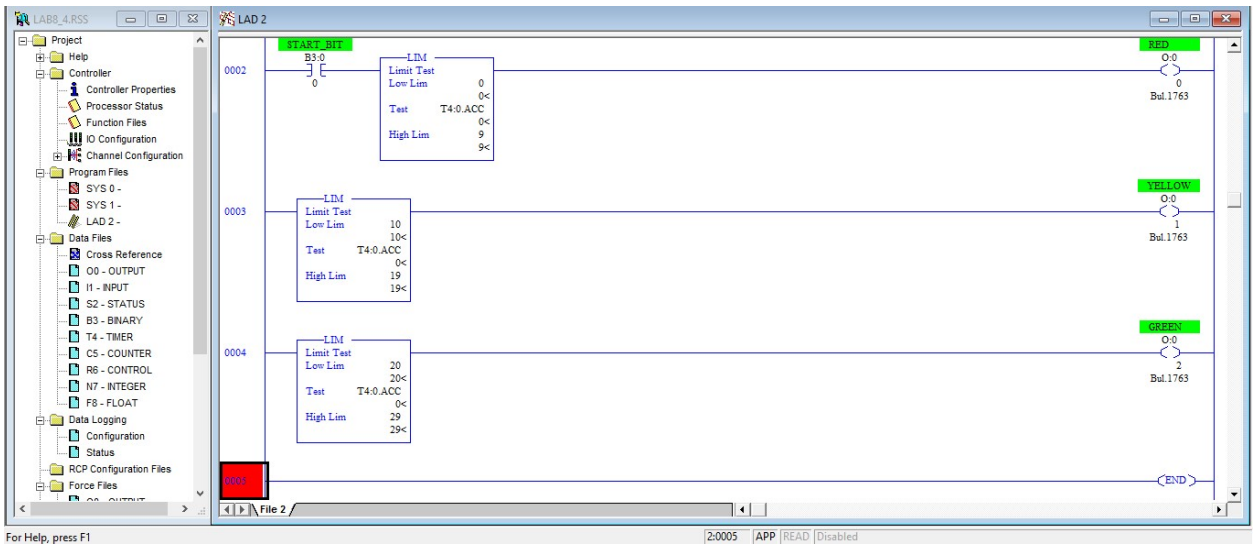
(1)Remote control button using OSR instruction.



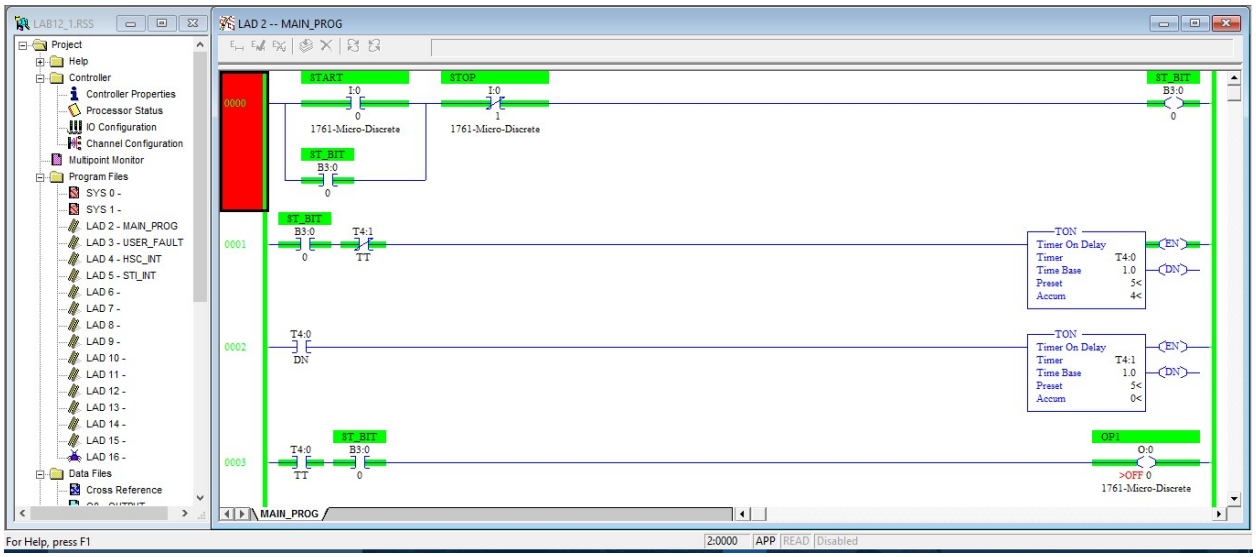
2)Timers & Comparison Instruction

(1)Traffic Light Controller

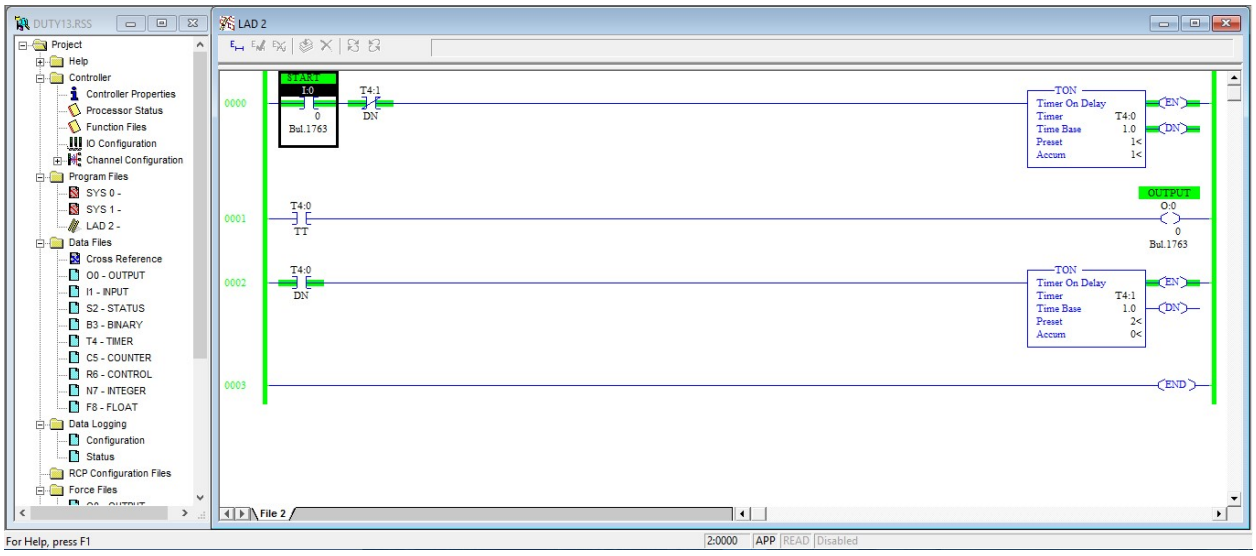




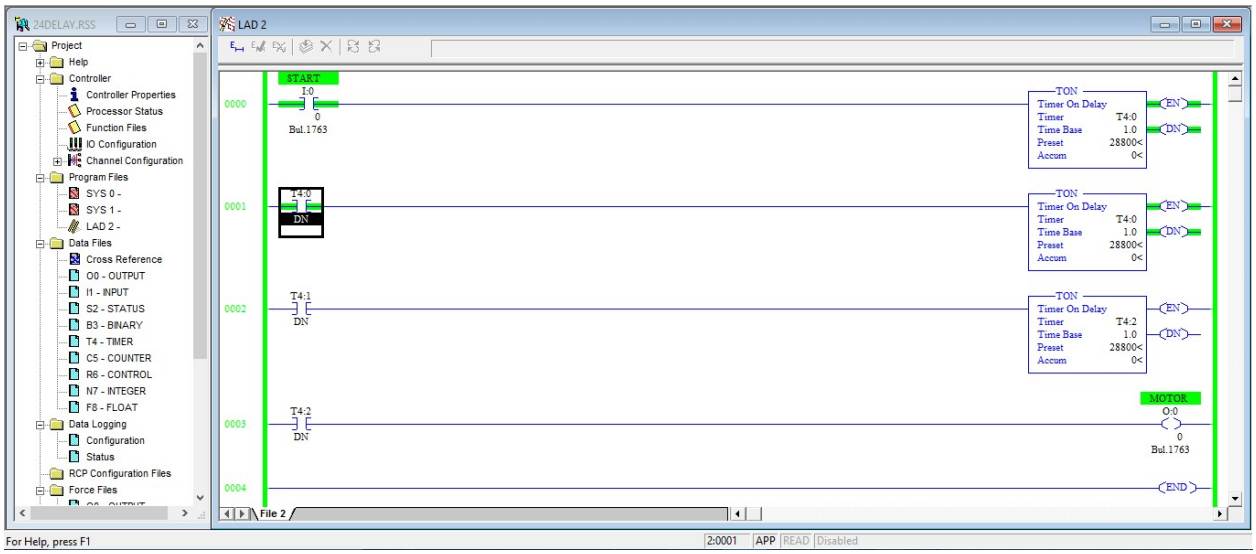
(2)Draw a ladder diagram for oil pumping system in which oil is pump through two solenoid valves for the duration of 5s each.



(3)Generate a pulse of 1/3 duty cycle.



(4)Provide the time delay of 24hr to operate motor.



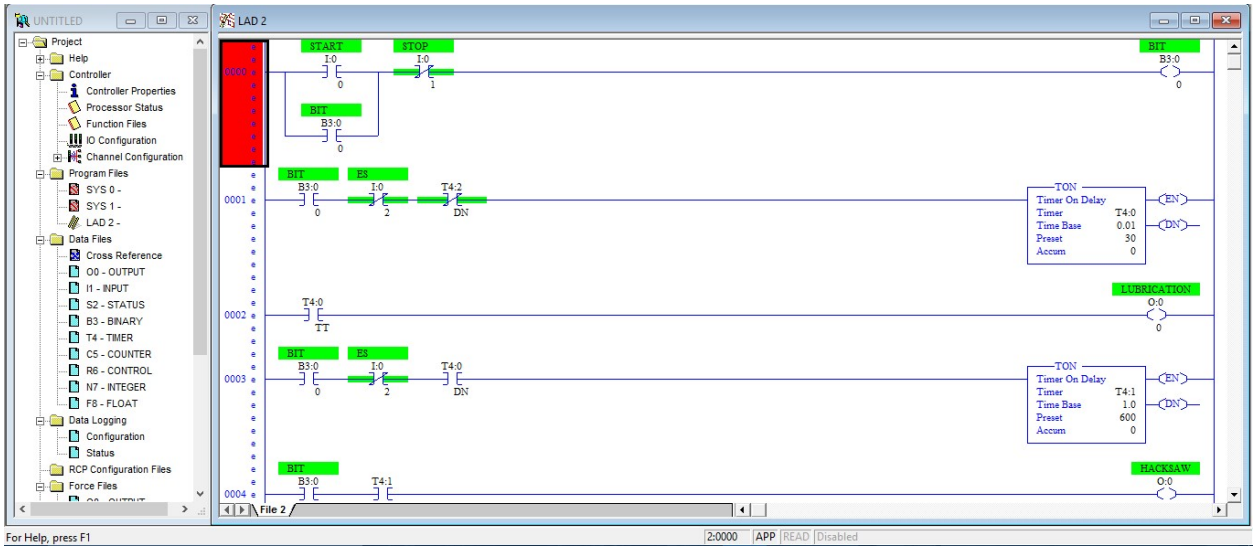
(5)Write a ladder diagram to sequencing operation for the wood cutter.

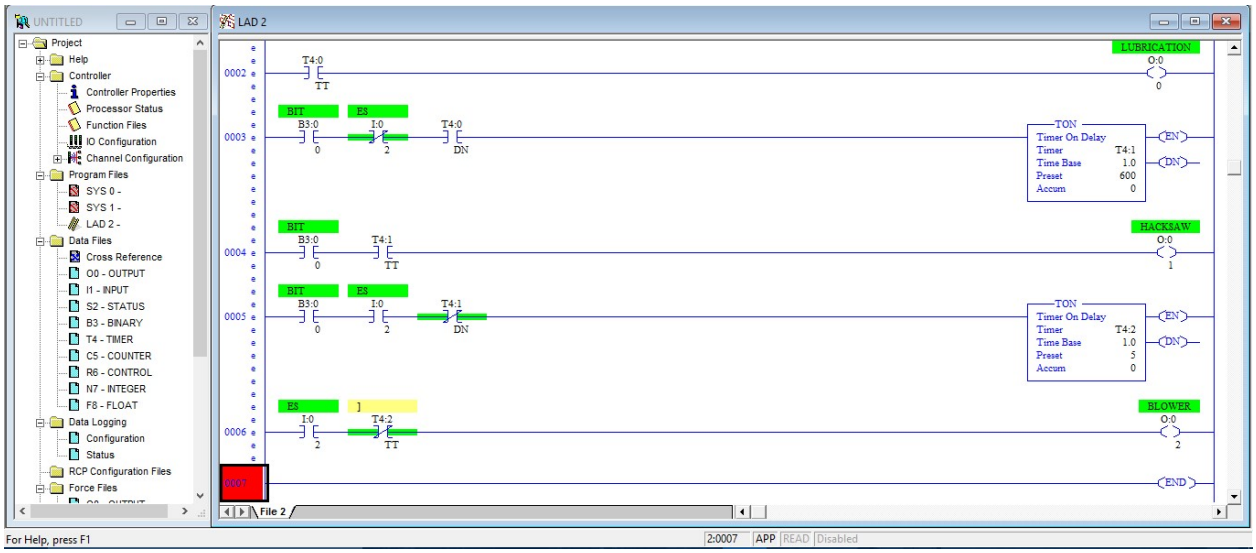
1.First start lubrication pump and after 3s wood log is placed at cutting position and then hacksaw starts.

2.Hacksaw continue for 10min after that blower fan blows off the wooden chips for 5s then log is carried out to storage via the conveyor system.

ES – I:0.0/2 Lubrication – O:0.0/0 Start – I:0.0/0

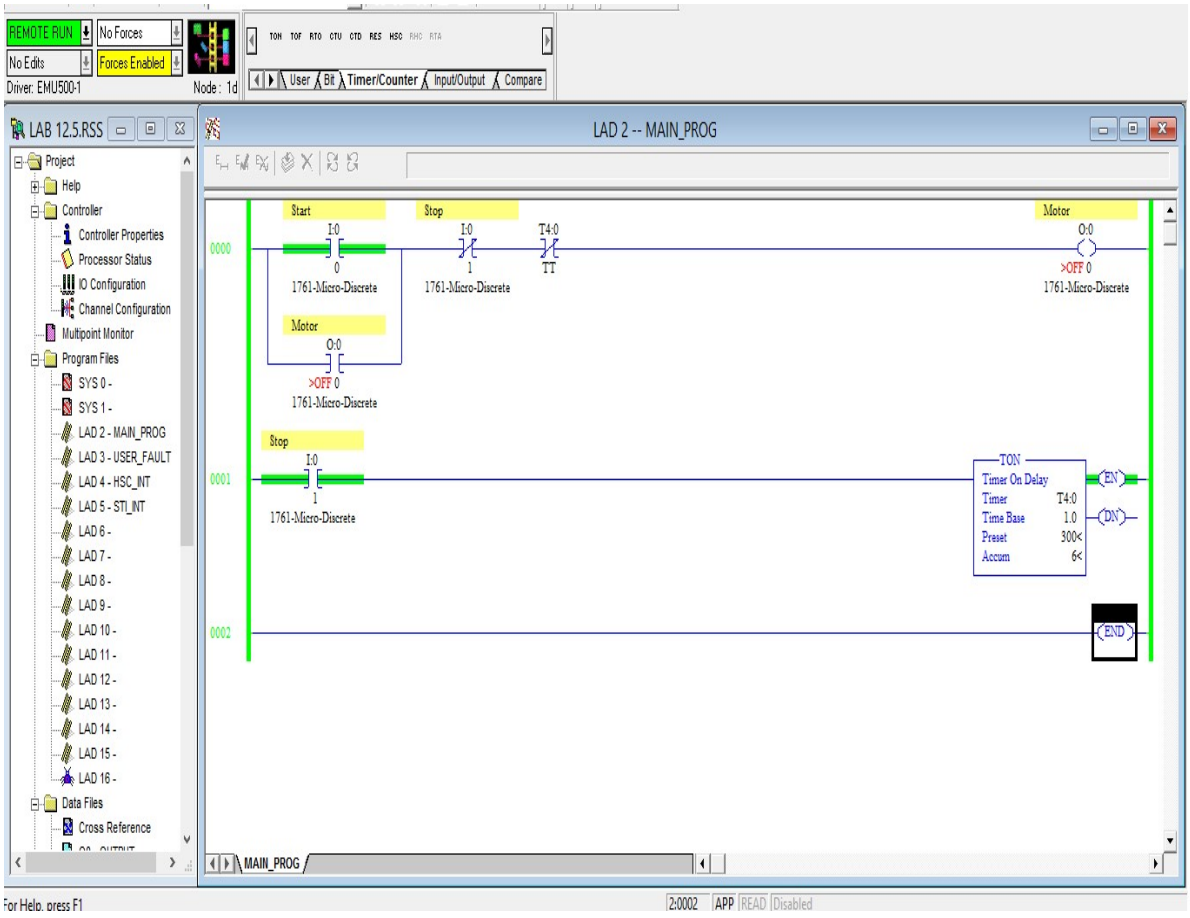
Hacksaw – O:0.0/1 Blower-O:0.0/2 stop – I:0.0/1





(6).When start button is pressed a motor goes ON it remains ON until the stop Button is pressed,this motor can not be started sgain before 5 min. Are left when it is stop previously.

DI:-I:0.0/0-START DO:-O:0.0/0-MOTOR
I:0.0/1-STOP



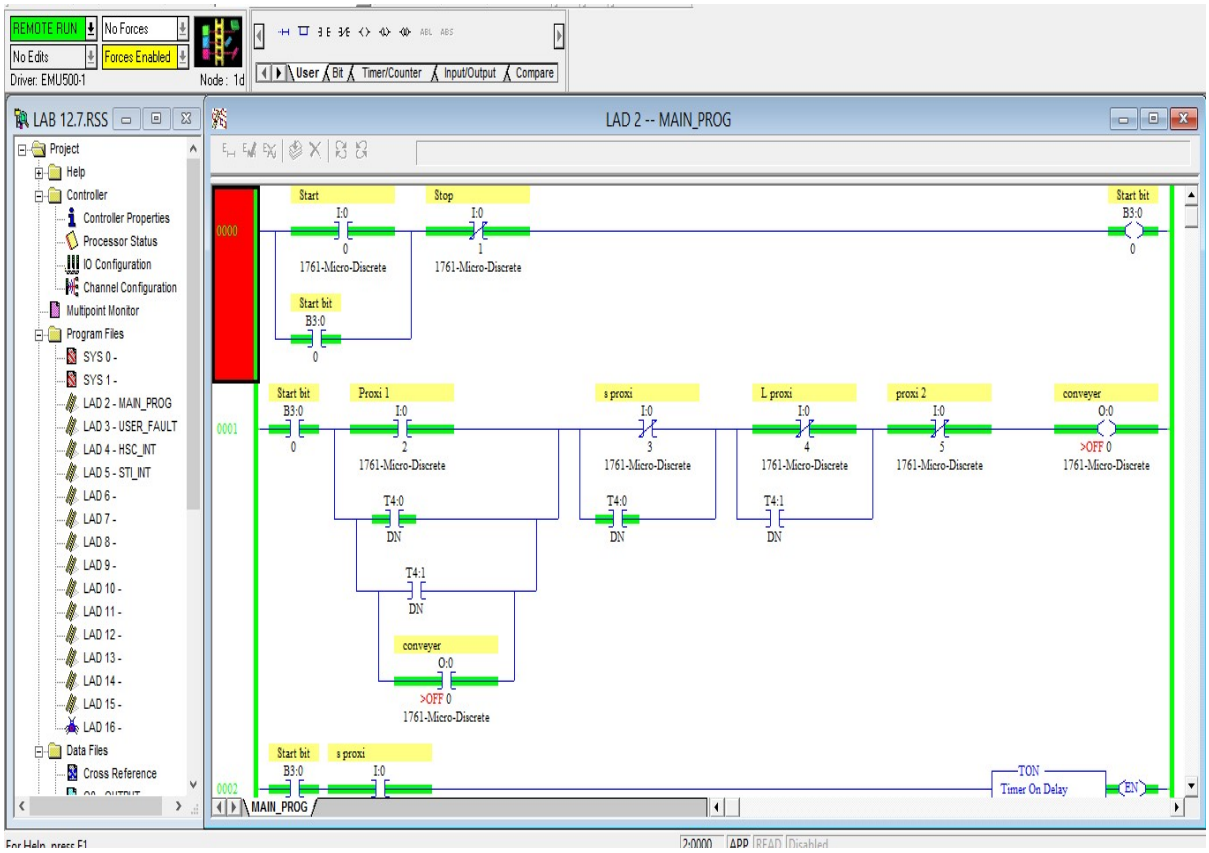
(7).Draw a ladder diagram for container packing system whose schimatic given in the

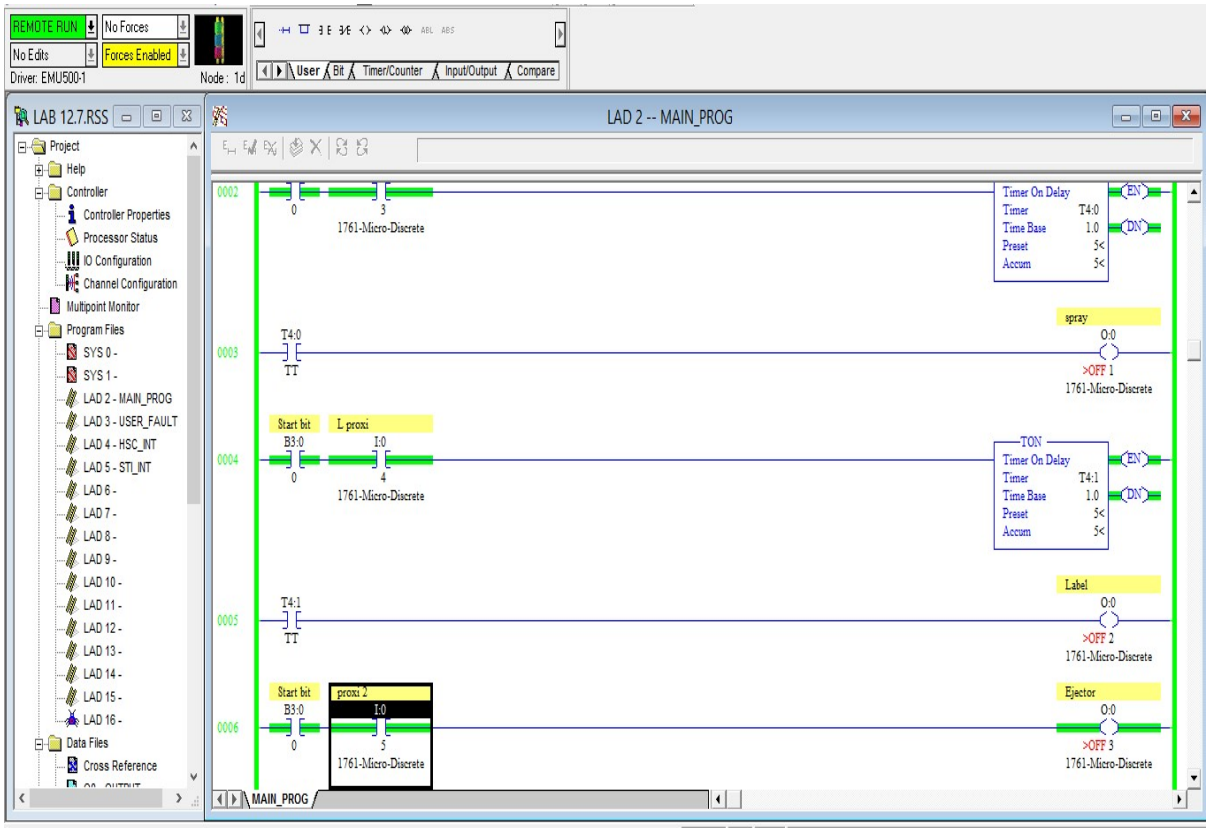
Fig. the function of the system as follows:

Whenever a container is placed on the conveyor its presence will be sensed

by a proxy-1 sensor and the conveyor belt will start when container reaches to spray nozzle position the conveyor stops and the spray nozzle will apply paint on the container for 5sec.After this the conveyor restart and the container taken to label is been placed for 2sec.After label is been placed for 2sec.After label is been placed on the container the conveyor carries the container to the packing system,where the ejector will eject the container from the conveyor belt and move it to packing.for powering up the system seprated start and stop button are provide.

DI:-I:0.0/0-START	DO:-O:0.0/0-conveyor
I:0.0/1-STOP	O:0.0/1-spray
I:0.0/2-Proxi 1	O:0.0/2-Label
I:0.0/3-s proxy	O:0.0/3-Ejector
I:0.0/4-L Proxi	
I:0.0/5-proxi2	


REMOTE RUN
No Forces
No Edits
Forces Enabled
Driver: EMU500-1
Node: 1d
User
Bit
Timer/Counter
Input/Output
Compare
LAB 12.7.RSS
LAD 2 -- MAIN_PROG
Project
Help
Controller
Controller Properties
Processor Status
IO Configuration
Channel Configuration
Multipoint Monitor
Program Files
SYS 0 -
SYS 1 -
LAD 2 - MAIN_PROG
LAD 3 - USER_FAULT
LAD 4 - HSC_INT
LAD 5 - STI_INT
LAD 6 -
LAD 7 -
LAD 8 -
LAD 9 -
LAD 10 -
LAD 11 -
LAD 12 -
LAD 13 -
LAD 14 -
LAD 15 -
LAD 16 -
Data Files
Cross Reference
0000
Start
I:0
0
1761-Micro-Discrete
Stop
I:0
1
1761-Micro-Discrete
Start bit
B3:0
0
Start bit
B3:0
0
0001
Start bit
B3:0
0
Proxi 1
I:0
2
1761-Micro-Discrete
s proxi
I:0
3
1761-Micro-Discrete
L proxi
I:0
4
1761-Micro-Discrete
proxi 2
I:0
5
1761-Micro-Discrete
conveyer
O:0
>OFF 0
1761-Micro-Discrete
T4:0
DN
T4:0
DN
T4:1
DN
T4:1
DN
conveyer
O:0
>OFF 0
1761-Micro-Discrete
0002
Start bit
B3:0
s proxi
I:0
TON
Timer On Delay
EN
MAIN_PROG


REMOTE RUN
No Forces
No Edits
Forces Enabled
Driver: EMU500-1
Node: 1d
User
Bit
Timer/Counter
Input/Output
Compare
LAB 12.7.RSS
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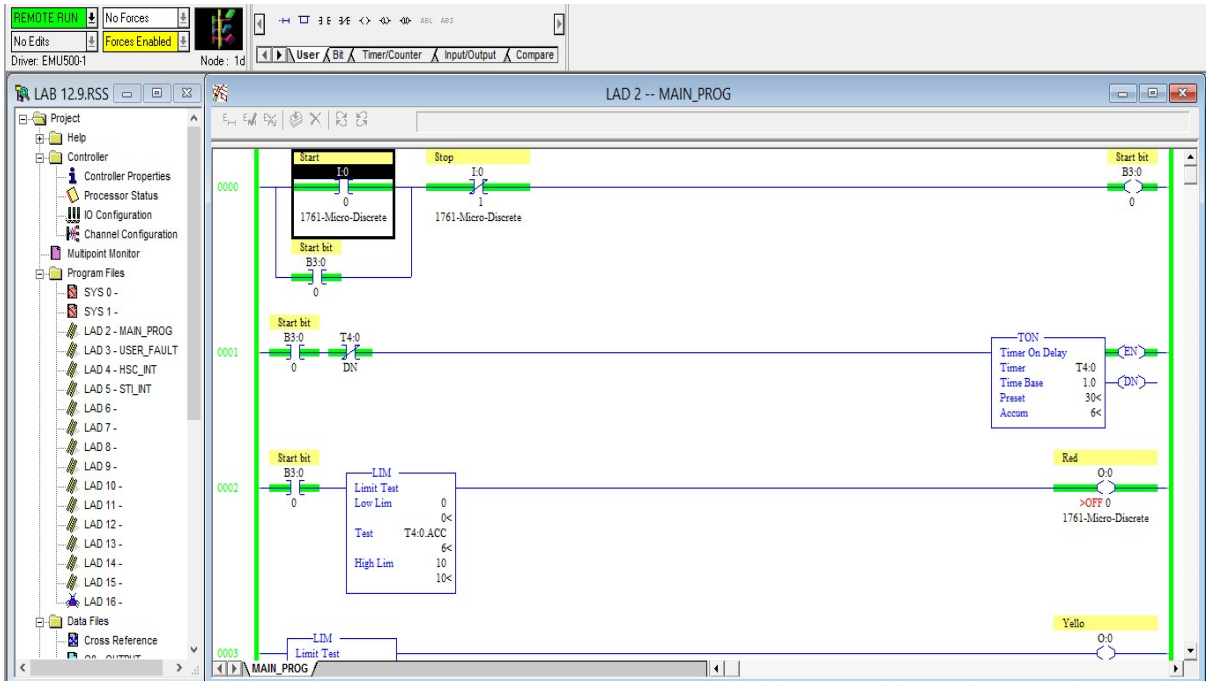
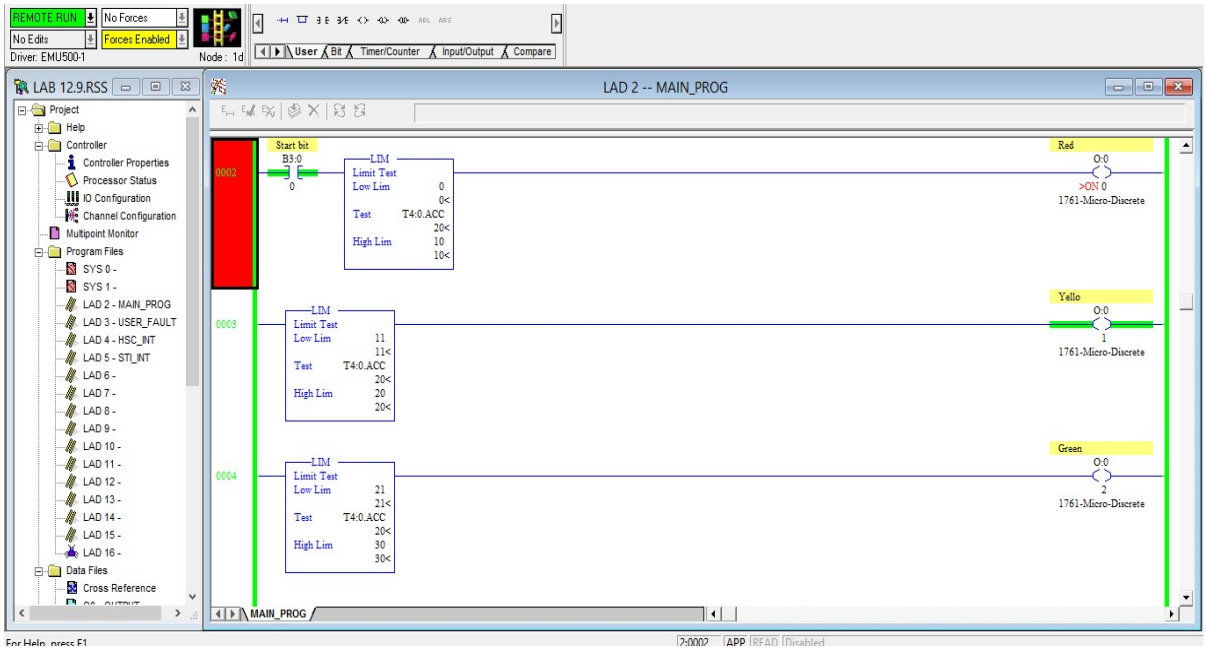
LAD 5 - STI_INT
LAD 6 -
LAD 7 -
LAD 8 -
LAD 9 -
LAD 10 -
LAD 11 -
LAD 12 -
LAD 13 -
LAD 14 -
LAD 15 -
LAD 16 -
Data Files
Cross Reference
0002
0
3
1761-Micro-Discrete
Timer On Delay
Timer T4:0
Time Base 1.0
Preset 5<
Accum 5<
EN
DN
spray
0003
T4:0
TT
O:0
>OFF 1
1761-Micro-Discrete
Start bit
B3:0
0
L proxi
I:0
4
1761-Micro-Discrete
0004
TON
Timer On Delay
Timer T4:1
Time Base 1.0
Preset 5<
Accum 5<
EN
DN
Label
0005
T4:1
TT
O:0
>OFF 2
1761-Micro-Discrete
Start bit
B3:0
0
proxi 2
I:0
5
1761-Micro-Discrete
0006
Ejector
O:0
>OFF 3
1761-Micro-Discrete
MAIN_PROG

(8).Write a ladder to enable a traffic controller using compare instructions.

DI:-I:0.0/0-START DO:-O:0.0/0-RED
I:0.0/1-STOP O:0.0/1-YELLOW
0:0.0/2-GREEN

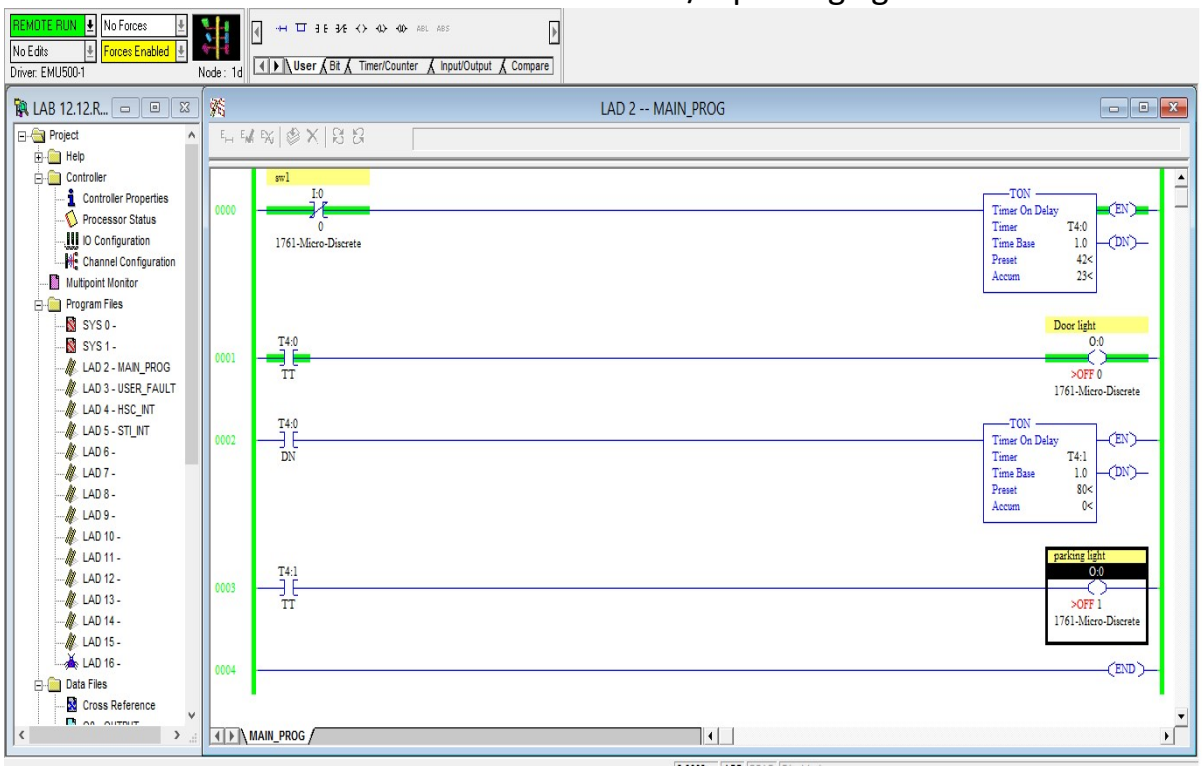




(9).When a light turned OFF in a bulding and a exit door light remain ON for on additional 42sec.In additional the parking plot lights are to remain ON for an additional 3min. after the door light goes OFF.Draw a ladder diagram for this operation.

DI:-I:0.0/0-sw1 DO:-O:0.0/0-Door light

O:0.0/1-parking light

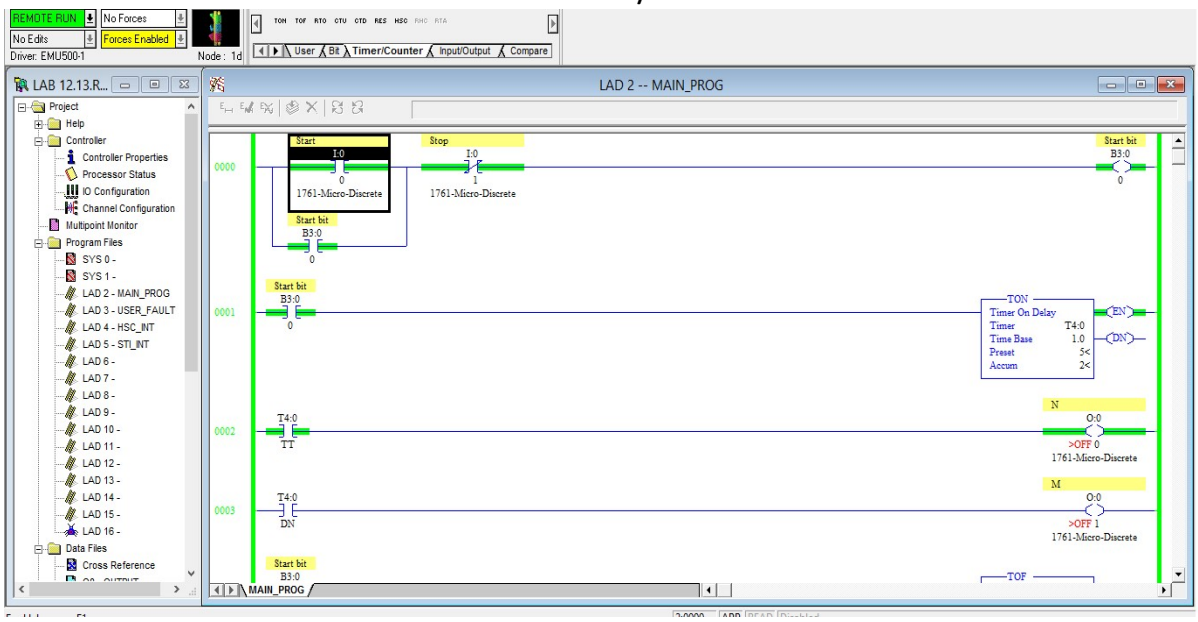


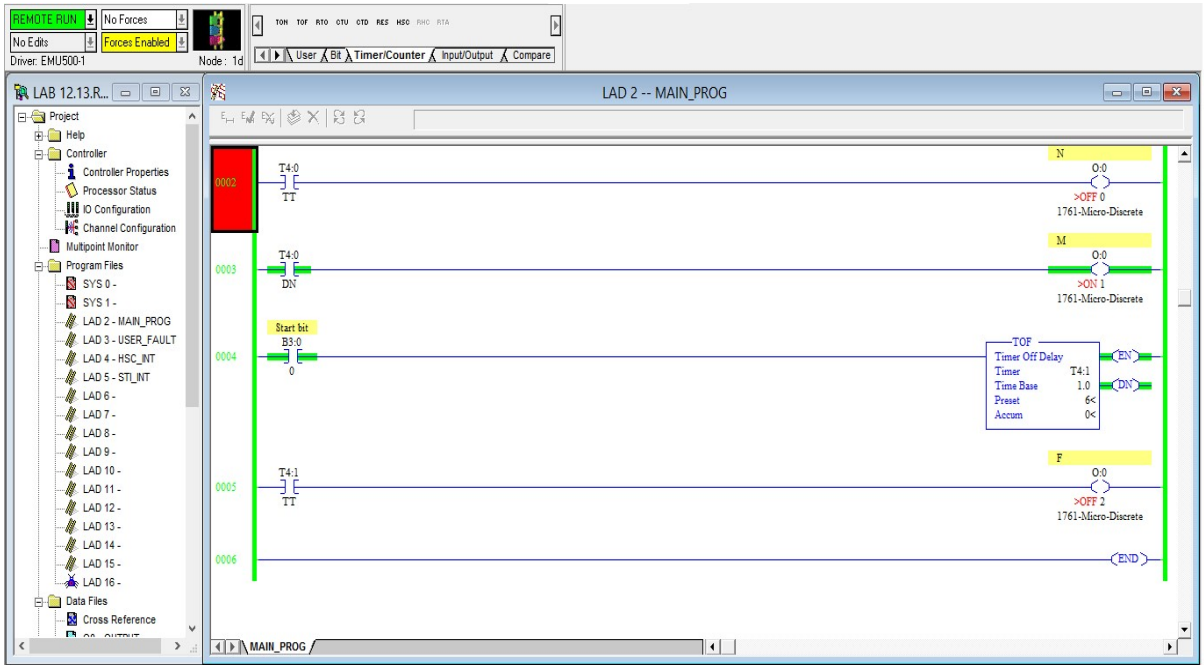
(10).When the start button is depressed output M goes ON 5sec later and N goes ON.When stop is pushed both M & N go OFF.In addition,6sec after M & N go OFF,fan F which had previously been OFF goes ON.F remains ON until the start button is again depressed.

DI:-I:0.0/0-START DO:-O:0.0/0-N

I:0.0/1-STOP O:0.0/1-M

O:0.0/2-F





(11).O=(A’B + BC)(CD + E)’

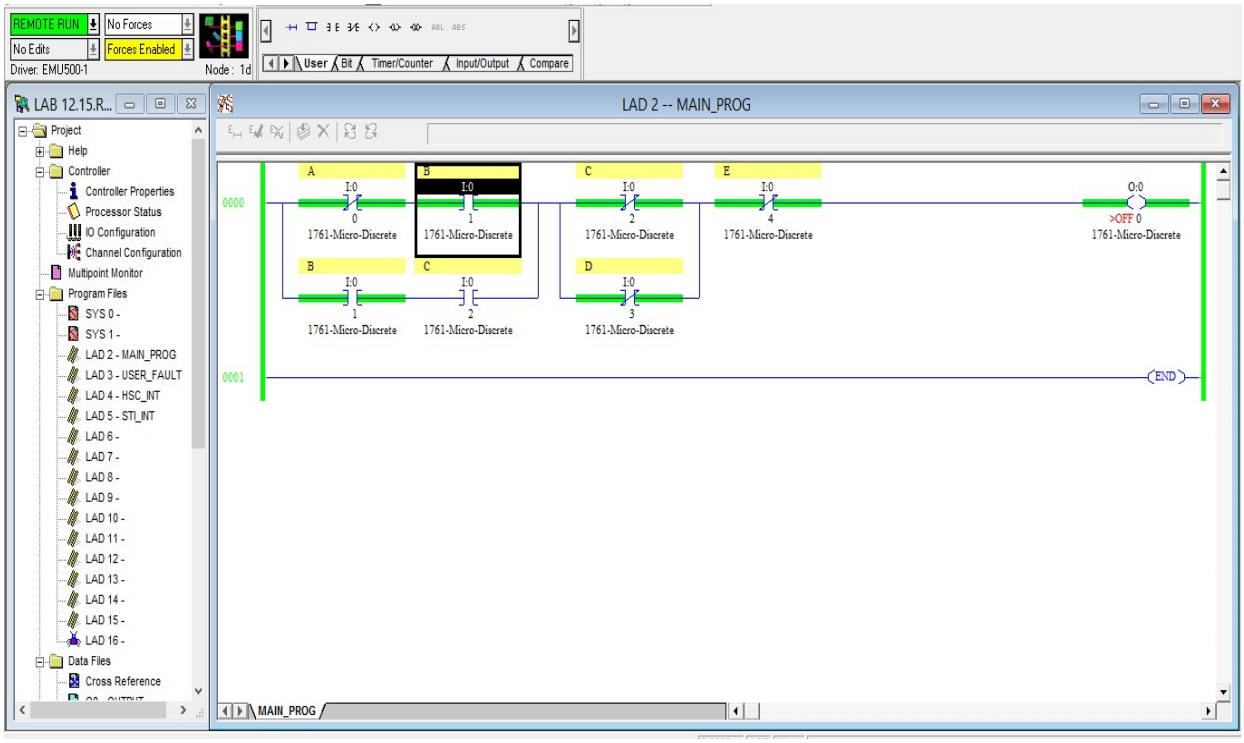
DI:-I:0.0/0-A DO:-O:0.0/0-O

I:0.0/1-B

I:0.0/2-C

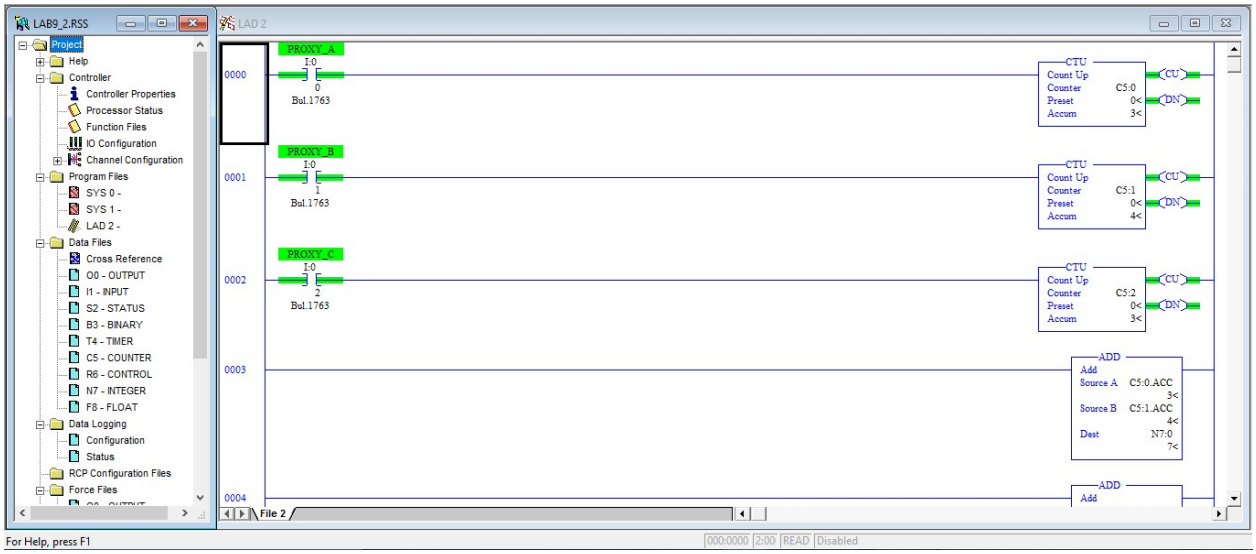
I:0.0/3-D

I:0.0/4-E

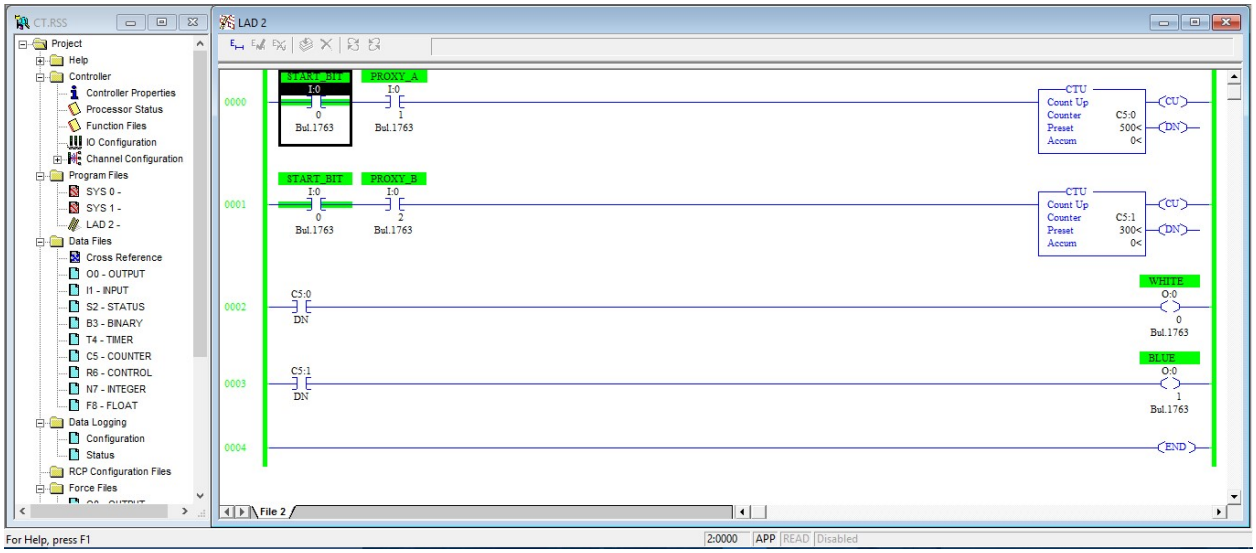


3)Counter & Advanced Instruction

(1)Count the number of products pass through the three conveyor.



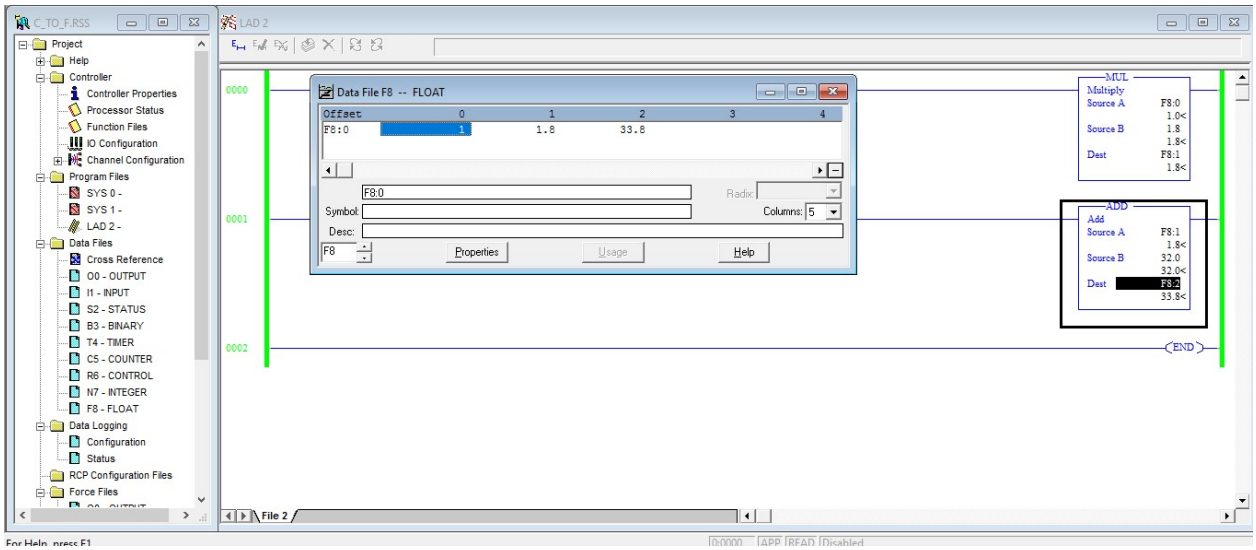
(2)An assembly line manufacture has two products A& B. Whenever 500 products of A are manufactured then white lamp ON & for 300 of B a blue lamp is ON.



4)Arithmatic Instruction

(1) Degree Farenheit to Degree Centigrate conversion.

F = (9/5)C + 32



5)MOV Instruction

(1)On a assembly line product A & B are drilled. When product A appears on assembly line its been detected by proximity sensor A and run drilling for 5s & if its detected product B the run Drilling for 10s.Draw ladder diagram for the above given sequence.