ASSEMBLY

Here we are writing assembly code for counter
whenever counter triggers 101 then extra led will glow

A	B	C	LED
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	1
1	1	0	0
1	1	1	0

Code:

```
.include"/storage/self/primary/Download/FWC/fwc-1/assembly/piosetup/m328Pdef/m328pdef.inc"
ldi r21,0b00000111
out DDRB,r21
ldi r24,0b00000100
out DDRD,r24

ldi r22,0b00000000
ldi r23,0b00000001
loop:
add r22,r23
cpi r22,0b00000101
breq check
cbi PORTD,2
cpi r22,0b00001000
brne rst
ldi r22,0b00000000
check:
mov r24,r22
out PORTD,r24
rjmp rst
rst:
mov r21,r22
out PORTB,r21
call wait

wait:
```

```
    push r16
    push r17
    push r18

    ldi r16,0x50
    ldi r17,0x00
    ldi r18,0x00

w0:
   dec r18
   brne w0 ;loop breaks after running 256 times
   dec r17
   brne w0 ;loop breaks after running 256 times
   dec r16 brne w0 ;loop breaks after running 80 times
   pop r18
   pop r17 pop r16
   rjmp loop
```

connections:
ldi – means load the data
DDRB means port B (connect arduino 8,9,10 pins Led s)
DDRD means port D(connect arduino 4th pin to extra Led)
load 00000000 to register 22
load 00000001 to register 23
inside loop we are adding 22 and 23 registers
then we have to compare with 00000101 then break check then extra led glow
after that increment then reaches to 00001000 then reset to 00000000