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18EE30021

```
.INCLUDE "M32DEF.INC"

LDI   R16, 0x00
OUT   DDRA, R16    ; define PORTA input
LDI   OUT DDRB, R16 ; define PORTB input

LDI   R16, 0xFF
OUT   DDRC, R16    ; define PORTC output
OUT   DDRD, R16    ; define PORTD output

IN R16, PINA
IN R17, PINB.

ADD   R18, R16, R17    ; R18 = R16 + R17
      BRCS temp.       ; checking for carry.
      LDI  R20, 0xF0
      OUT  PORTD, R20
temp: LDI  R20, 0x0F
      OUT  PORTD, R20.
```

Here if auxilian carry is zero then the output will be 0F to PORTD & otherwise F0 to PORTD.

```
LDI     R18, 0x00
LDI     R19, 0x00
LDI     R20, 0x08

LOOP1 :
        RST     R16, R18
        BRTS    BITSET
        INC     R18
        CP      R18, R20
        BRNE    LOOP1
BITSET :
        INC     R19
        RJMP    LOOP1
```

Same is repeated for R17

```
RST R19, 0
BRTS    OUT1    ; odd Parity
BRTS    OUT2    ; even Parity

OUT1 :  LDI     R22, 0x00
        OUT     PORTC, R22

OUT2:   LDI     R22, 0xFF
        OUT     PORTC, R22.
```