

To Read from port C :

X = PINC ; copy port C to X

NOTE:

```
PORTB = 0b10110011 ;  
X = PINB ;
```

DOES
NOT
WORK

```
PORTB = 0b10110011 ;  
-- no_operation() ;  
X = PINB ;
```

WORKS

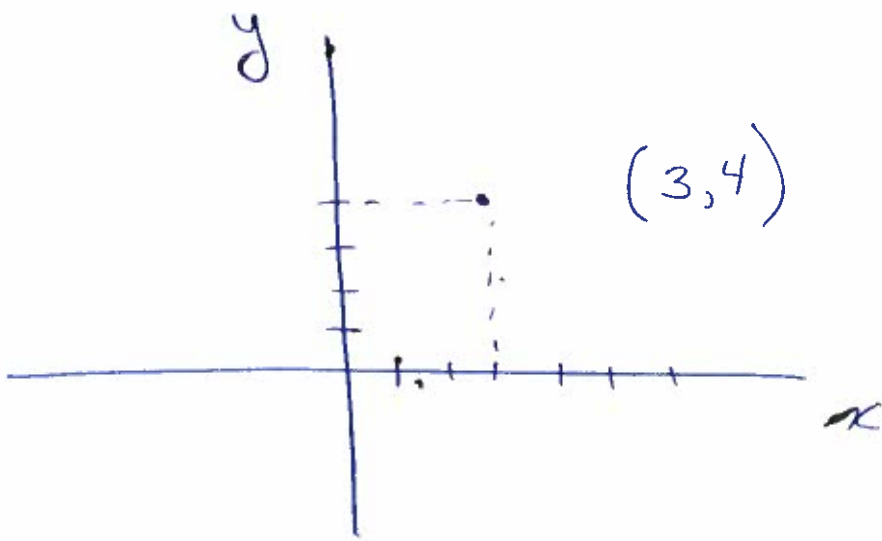
uint8_t X ;

possible functions

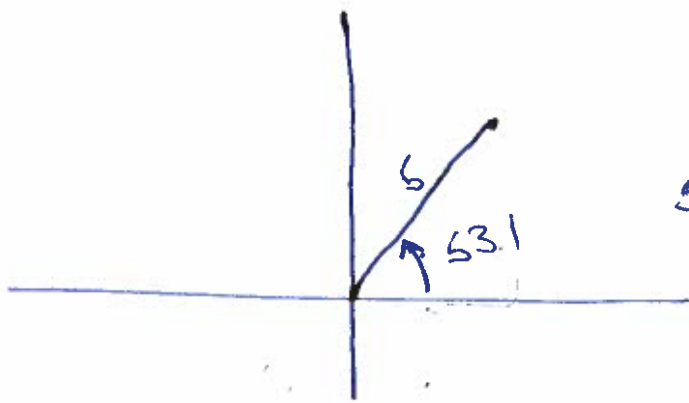
```
Redon()  
Redoff()  
Blueon()  
;
```

```
color(int r,  
uint_t r, uint_t g,  
uint_t b)
```

```
uint8_t readswitches()
```



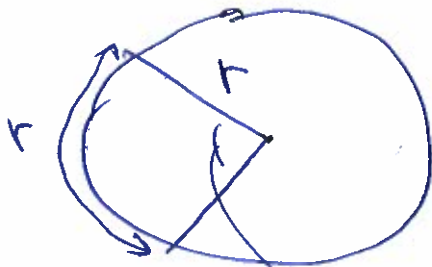
Cartesian



Polar

$$5 \angle 53.1^\circ$$

Radian



$$2\pi \text{ radians} = 360^\circ$$

Convert cartesian to polar

$$r = \sqrt{x^2 + y^2}$$

sqrt, pow

$$\theta = \tan^{-1} \frac{y}{x}$$

~~atan~~
atan2(y, x)

```
void c2p(double x, double y,  
        double* pr, double* pt)
```

```
{  
    Variable holds address  
    of a double  
    (p denotes pointer)
```

```
    double  
int r, t;
```

```
    r = sqrt(pow(x, 2) + pow(y, 2));
```

```
    t = atan2(y, x) * 180.0 / 3.14159265358979;  
        3.14159265358979;
```

```
    *pr = r;
```

```
    *pt = t;
```

```
}
```

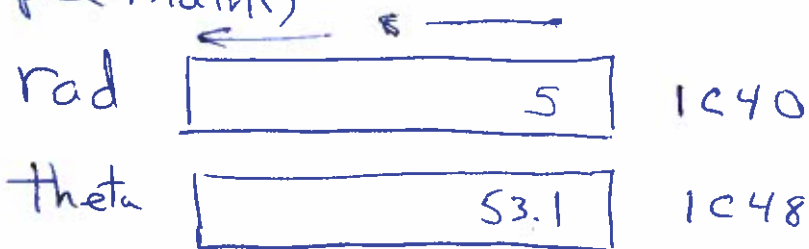
```
void main()
```

```
{ int rad, theta;  
  double
```

```
  c2p(3.0, 4.0, &rad, &theta)
```

```
}
```

Scope main()



Scope c2p()

