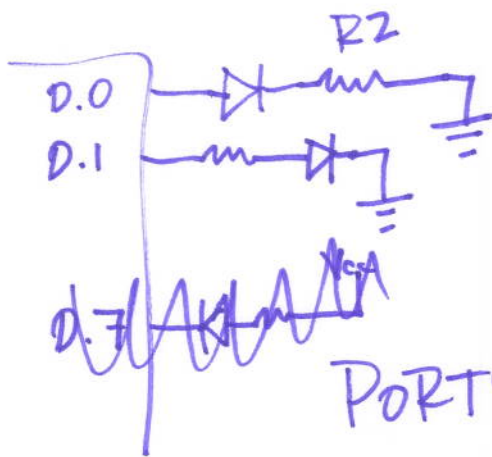
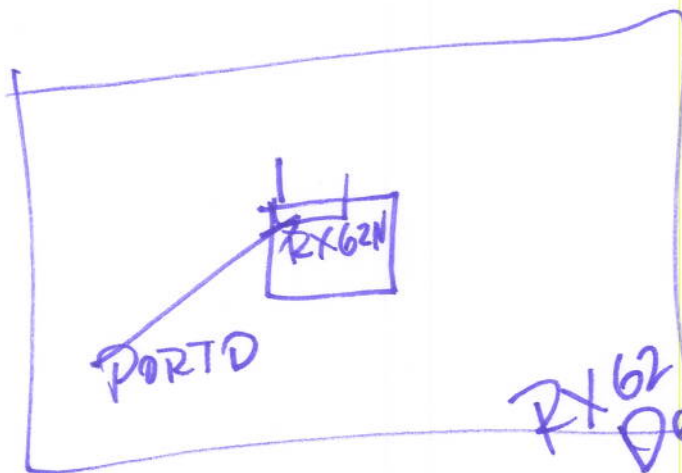


PORTD 13a output



```
PORTD.DDR.BIT.B0 = 1;
PORTD.DR.BIT.B0 = 1;
```

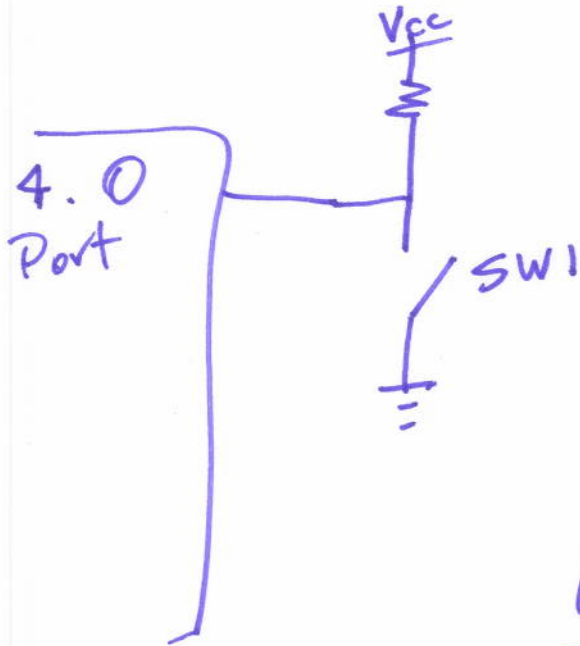
There is a include file that actually says that PORTD is memory location 0x0000 103E ← chip included
 This done for each chip



```
#define LED1
PORTD.DR.BIT.B0
```

Board include

RX62N Development Board



Write the code (2)

- 1) direction
- 2) read the bit & put it into variable myinput

```
int myinput;
```

```
PORT4.DDR.BIT.B0 = 0;
```

```
myinput = (int) PORT4.DR.BIT.B0;
```

```
#define SW1 PORT4.DR.BIT.B0
```

```
myinput = (int) SW1;
```

```
#define
```

```
LED1
```

```
PORTD.DR.BIT.B0
```

```
#define
```

```
LED-ON
```

```
1
```

```
#define
```

```
LED-OFF
```

```
0
```

```
#define
```

```
SWITCHIS-OFF
```

```
1
```

```
#define
```

```
SWITCHIS-ON
```

```
0
```

(3)

Write the code to:

- 1) Identify the directions of the LED/SWI
- 2) Read the button/SWI, if pressed, light up the LED.
- 3) Do forever

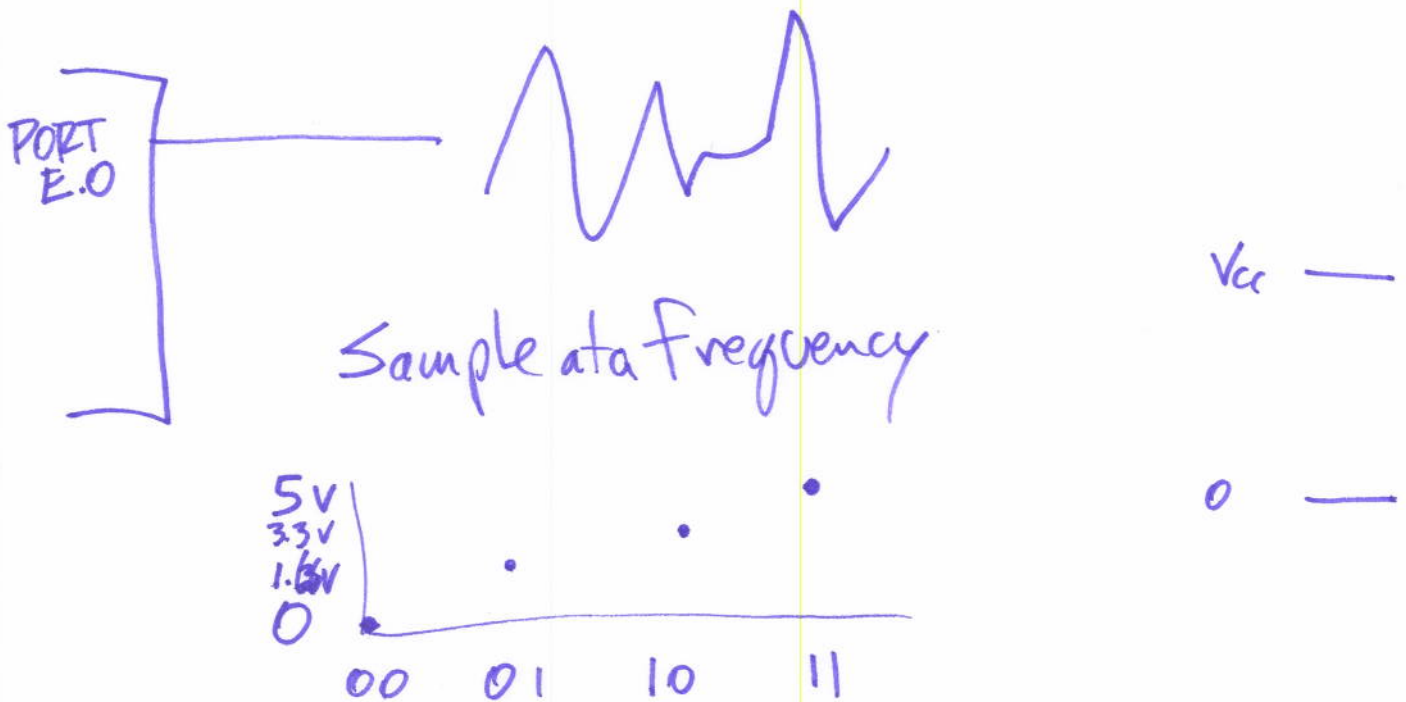
```
PORT A.DDR.BIT.B0 = 0; // SWI input  
PORT D.DDR.BIT.B0 = 1; // LED1 output
```

```
while(1) {
```

```
    if (SWI == SWITCH_IS_ON) LED1 = LED_ON  
    else LED1 = LED_OFF;
```

```
}
```

Analog = Continuous Voltage between 0 and Vcc (4)



Analog to Digital Converters

8 bits
10 bits
12 bits

$$= \frac{V_{ref+} - V_{ref-}}{2^N \text{ bits}}$$

$$= \frac{5V - 0V}{2^{10}} = \frac{5V}{1024}$$

$$= 4.8 \text{ mV} = 0.0048V$$

ECGR 4101/5101

LECTURE 3

⑤

our Renesas board 3.3V
8 bits of resolution

resolution of each bit?

0000 0000 \rightarrow 0V

0000 0001 \rightarrow 0.01289V

12 bits of resolution?

0.000800566V
