

1.

Push button	PC0[A0] voltage	ADC value (calculated)	ADC value (measured)
Right	0 V	0	0
Up	0.495 V	101	101
Down	1.203 V	246	245
Left	1.969 V	402	402
Select	3.182 V	651	650
none	5 V	1023	1022

2.

```
ISR(ADC_vect)
{
    //clear decimal and hex position
    uint16_t value = ADC;
    char lcd_string[8] = "      ";

    lcd_gotoxy(8, 0);
    lcd_puts(lcd_string);

    //print ADC value on LCD in decimal
    itoa(value, lcd_string, 10);
    lcd_gotoxy(8, 0);
    lcd_puts(lcd_string);

    if (value < 700)
    {
        // Send data uart
        uart_puts("ADC value in decimal: ");
        uart_puts(lcd_string);
        uart_puts("\r\n");
    }

    //print ADC value on LCD in hex
    itoa(value, lcd_string, 16);
    lcd_gotoxy(13, 0);
    lcd_puts(lcd_string);

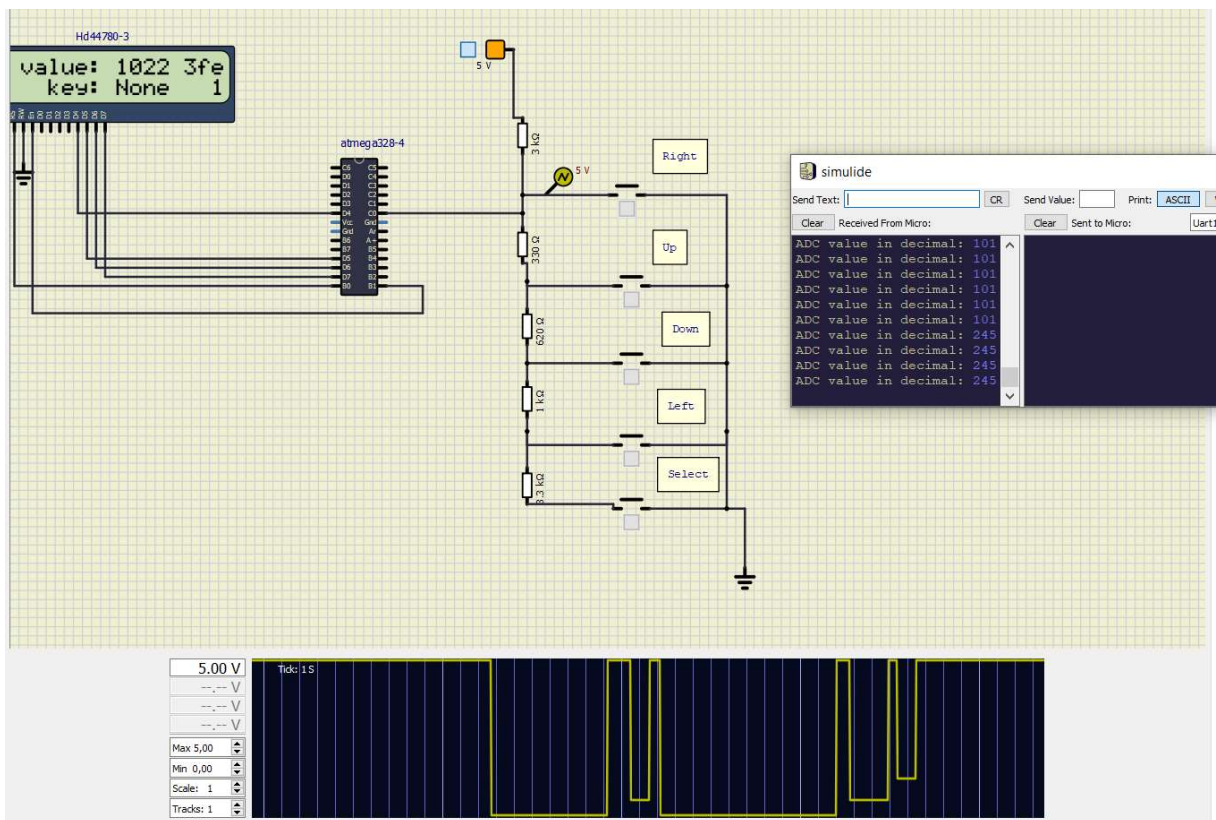
    //clear key positions
    itoa(value, lcd_string, 16);
    lcd_gotoxy(8, 1);
    lcd_puts("      ");
    lcd_gotoxy(8, 1);

    if (value > 1016)
    {
        lcd_puts("None");
    }
    //      od                                do
    else if (1017 > value && value > 549)
    {
        lcd_puts("Select");
    }
}
```

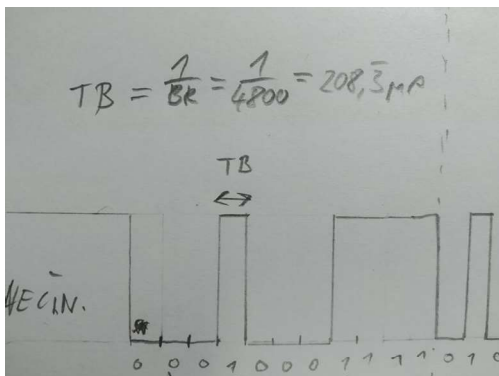
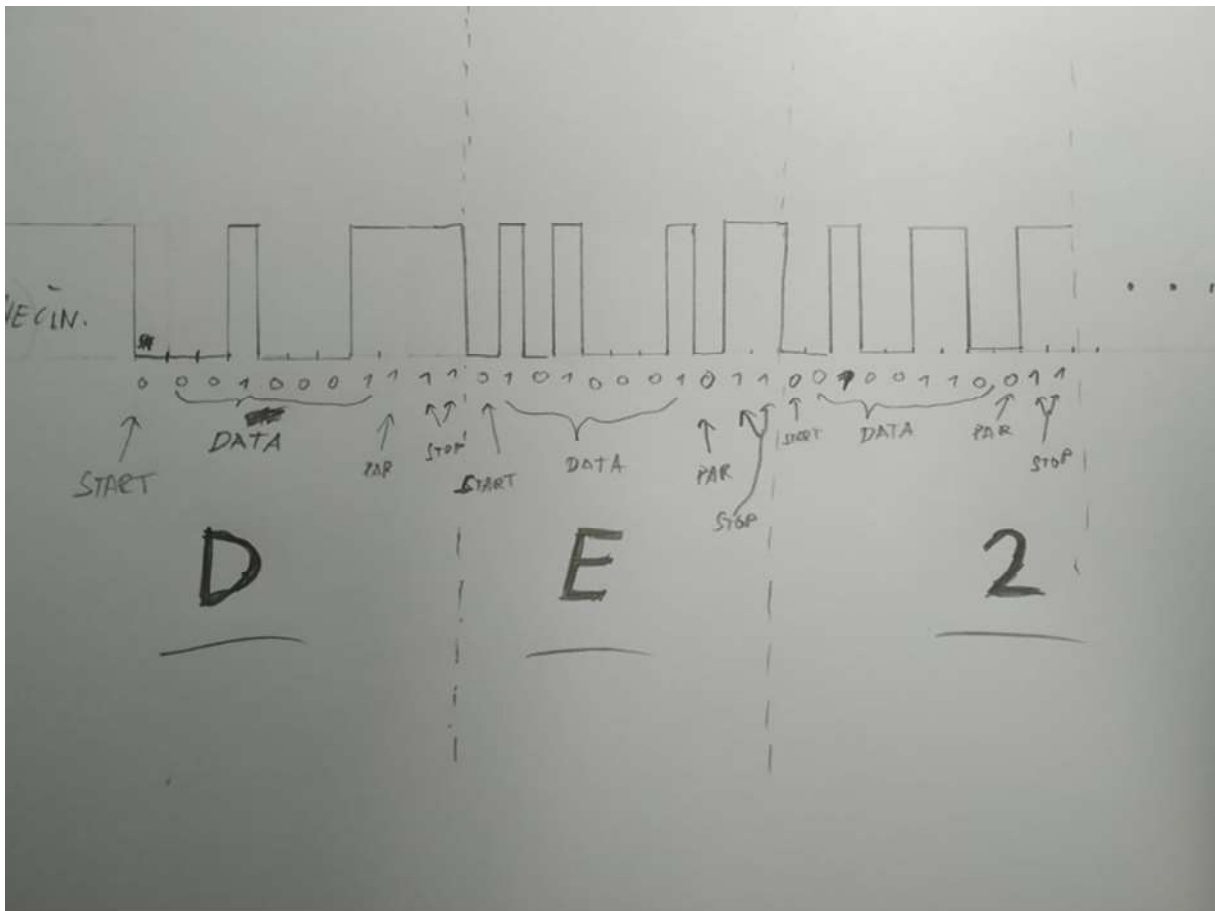
```

else if (550 > value && value > 349)
{
    lcd_puts("Left");
}
else if (350 > value && value > 149)
{
    lcd_puts("Down");
}
else if (150 > value && value > 50)
{
    lcd_puts("Up");
}
else
{
    lcd_puts("Right");
}
}

```



3.



```
//par bit odd
lcd_gotoxy(15,1);
if(value %2 == 0)
{
    lcd_puts("1");
}
else
{
    lcd_puts("0");
}
```