* Robot will operate in IR mode when distances detected on all three sensors are below an ADC reading of 650
* Robot will operate in bumper mode when distances are at a maximum value. I.E. an object is too close to the robot for accurate measurements. In which case rely on the bump sensors instead.
* Conditional statements for ADC\_F = 1000, ADC\_R = 2100, and ADC\_L = 1950 indicate robot is able to move freely and there are no obstacles w/in a 15cm radius in front of it.
* Additionally, the bump switches have an ISR. And in the case the front IR sensor is unable to detect a presence because the object is too low then the following procedure is interrupted.

if((ADC\_F<=1000) && (ADC\_R<=2100) && (ADC\_L<=1950)){

//Keep driving forward until an object is detected

all\_FWD();

}else if((ADC\_F>1000) && (ADC\_R<=2100) && (ADC\_L<=1950)){

//Front sensor detects an obstacle, stop bust a U and drive in opposite direction

CW\_90();

CW\_90();

all\_FWD();

}else if((ADC\_F>1000) && (ADC\_R>2100) && (ADC\_L<=1950)){

//Front and Right IR sensor detect obstacle, rotate CCW

CCW\_90();

all\_FWD();

}else if((ADC\_F>1000) && (ADC\_R<=2100) && (ADC\_L>1950)){

//Front and Left IR sensor detect obstacle, rotate CW

CW\_90();

all\_FWD();

}else if((ADC\_F<=1000) && (ADC\_R>3000) && (ADC\_L<=1950)){

//Robot is driving too close to an obstacle on the Right, rotate CCW

CCW\_90();

all\_FWD();

}else if((ADC\_F<=1000) && (ADC\_R<=2100) && (ADC\_L>3000)){

//Robot is driving too close to an obstacle on the Left, rotate CW

CW\_90();

all\_FWD();

}else{

//Keep driving forward

all\_FWD();

}

