```
#include <Servo.h>

#define servopin 3   //Servo
#define red1 11      //button that puts servo to the up position
#define yellow1 10   //button that puts servo to the down position
#define miniLed_2 7 //solid led (range finder)

#define miniLed_1 6 //red led (range finder)

byte buttonState;

Servo myservo;
int Pulse_Width=0;
byte pos;

int red2 = 9;       //button that turns the headlamp on and off
int led = 5;        //headlamp

int state = HIGH;     // the current state of the output pin
int reading;          // the current reading from the input pin
int previous = LOW;   // the previous reading from the input pin

long time = 0;        // the last time the output pin was toggled
long debounce = 200;  // the debounce time, increase if the output flickers

void setup()
{
  myservo.attach(servopin);
```

```
  pinMode(red1, INPUT);
  digitalWrite(red1, HIGH);

  pinMode(yellow1, INPUT);
  digitalWrite(yellow1, HIGH);

  pinMode(miniLed_1, OUTPUT);
  digitalWrite(miniLed_1, LOW);

  pinMode(miniLed_2, OUTPUT);
  digitalWrite(miniLed_2, LOW);


  pinMode(red2, INPUT);
  pinMode(led, OUTPUT);
}

int miniLed_1_Value;

void loop()
{
  //Servo Control w/LEDs
   buttonState = digitalRead(red1);

  if(buttonState == LOW){
     myservo.write(100);

    digitalWrite(miniLed_1, LOW);
    digitalWrite(miniLed_2, LOW);
```

```
}


 buttonState = digitalRead(yellow1);

if(buttonState == LOW){
    myservo.write(0);
   digitalWrite(miniLed_2, HIGH);

#define fadeTime 20
#define colorHoldTime 0

 miniLed_1_Value = 0;
delay(colorHoldTime);

for(int i = 0; i < 255; i += 1)
{
  miniLed_1_Value += 1;
  analogWrite(miniLed_1, miniLed_1_Value);
  delay(fadeTime);
}

  miniLed_1_Value = 255;
delay(colorHoldTime);

 for(int i = 255; i <= 255; i += 1)
{
  miniLed_1_Value -= 1;
  analogWrite(miniLed_1, miniLed_1_Value);
```

```
    delay(fadeTime);
  }
}

  //Headlamp Controls
  reading = digitalRead(red2);


  if (reading == HIGH && previous == LOW && millis() - time > debounce) {
    if (state == HIGH)
      state = LOW;
    else
      state = HIGH;

    time = millis();
  }

  digitalWrite(led, state);

  previous = reading;
}
```