```
//constant variable will not change
const int Trigpin = 37; // trigger pin (P5.6)
const int Ecopin = 31; // eco pin (P3.7)
const int PWMpin = 38; // PWM signal generated (P2.4)
const int DIRpin = 40; // motor direction (P2.7)
int a = 1;
const int PushButton = 73; //push bustton pin

// variables will change:
int ButtonState = 0;         // variable for reading the pushbutton status
int duration;
float distance;

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600); //initialize serial communication at 9600 bits per second
  pinMode(PWMpin, OUTPUT); // set pin P2.4 as PWM output
  pinMode(DIRpin, OUTPUT); // set pin P2.7 as outout for motor direction
  pinMode(Trigpin, OUTPUT); // set pin P5.6 as trigger output (to generate pulse)
  pinMode(Ecopin, INPUT); // set pin P3.7 as input to receive signal from sensor
  pinMode(PushButton, INPUT_PULLUP); // initialize the pushbutton pin as an input
}

void loop() {
  while (a == 1)
  {
    // put your main code here, to run repeatedly:
    digitalWrite(Trigpin, HIGH);
    delay(60); // 60ms time delay
```

```
  digitalWrite(Trigpin, LOW);
  duration = pulseIn(Ecopin, HIGH);
  distance = duration / 58; // Centimeter unit
  digitalWrite(DIRpin, LOW); //P2.7 = low (0) = anticlockwise
  analogWrite(PWMpin, 229); //Motor start
  if (distance >= 40)
  {
   analogWrite(PWMpin, 0);
   delay(300);
   digitalWrite(DIRpin, HIGH);
   analogWrite(PWMpin, 229);
  }
  if (distance <= 10)
  {
   analogWrite(PWMpin, 0);
  }
  a = 0;
 }
 ButtonState = digitalRead(PushButton);
 if (ButtonState == HIGH)
 {
  a = 1;
 }
}
```