**SMART CAR PARKING SYSTEM**

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**PYTHON CODE:**

**import board**

**import pwmio**

**import time**

**LCD\_I2C\_ADDRESS = 0x3F**

**SERVO\_MOTOR\_PIN = 3**

**IR\_SENSOR\_1\_PIN = 2**

**IR\_SENSOR\_2\_PIN = 4**

**servo = pwmio.PWMOut(board.D3)**

**i2c = board.I2C()**

**lcd = LiquidCrystal\_I2C(i2c, LCD\_I2C\_ADDRESS)**

**servo.attach()**

**servo.duty\_cycle = 100**

**lcd.begin()**

**lcd.clear()**

**lcd.setCursor(0, 0)**

**lcd.print(" ARDUINO PARKING SYSTEM ")**

**time.sleep(2)**

**lcd.clear()**

**lcd.setCursor(0, 0)**

**lcd.print(" WELCOME! ")**

**lcd.setCursor(0, 1)**

**lcd.print(" Slot Left: ", end="")**

**lcd.print(Slot)**

**flag1 = False**

**flag2 = False**

**while True:**

**if digitalRead(IR\_SENSOR\_1\_PIN) == LOW and flag1 == False:**

**if Slot > 0:**

**flag1 = True**

**if flag2 == False:**

**servo.duty\_cycle = 0**

**Slot -= 1**

**else:**

**lcd.setCursor(0, 0)**

**lcd.print(" SORRY :( ")**

**lcd.setCursor(0, 1)**

**lcd.print(" Parking Full ")**

**time.sleep(3)**

**lcd.clear()**

**if digitalRead(IR\_SENSOR\_2\_PIN) == LOW and flag2 == False:**

**if flag1 == False:**

**flag2 = True**

**if flag1 == False:**

**servo.duty\_cycle = 0**

**Slot += 1**

**if flag1 == True and flag2 == True:**

**time.sleep(1)**

**servo.duty\_cycle = 100**

**flag1 = False**

**flag2 = False**

**lcd.setCursor(0, 1)**

**lcd.print(" Slot Left: ", end="")**

**lcd.print(Slot)**