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***COURSE:*** *COMPUTER ARCHITECTURE* ***(LAB)***

***TASK #:*** *6*

***SUBMITTED TO:*** *SIR ABUZAR ZAFAR*

***CODE:***

*const int trigPin = 11;*

*const int echoPin = 8;*

*int red = 12;*

*void setup() {*

*pinMode(trigPin, OUTPUT);*

*pinMode(echoPin, INPUT);*

*pinMode(red, OUTPUT);*

*Serial.begin(9600);*

*}*

*void loop() {*

*long duration, inches, cm;*

*digitalWrite(trigPin, LOW);*

*delayMicroseconds(2);*

*digitalWrite(trigPin, HIGH);*

*delayMicroseconds(10);*

*digitalWrite(trigPin, LOW);*

*duration = pulseIn(echoPin, HIGH);*

*inches = microsecondsToInches(duration);*

*cm = microsecondsToCentimeters(duration);*

*Serial.print(inches);*

*Serial.print("in, ");*

*Serial.print(cm);*

*Serial.print("cm");*

*Serial.println();*

*delay(100);*

*if (cm < 50)*

*{*

*digitalWrite(red,HIGH);*

*}*

*else*

*{*

*digitalWrite(red,LOW);*

*}*

*}*

*long microsecondsToInches(long microseconds) {*

*return microseconds / 74 / 2;*

*}*

*long microsecondsToCentimeters(long microseconds) {*

*return microseconds / 29 / 2;*

*}*

***ANSWER # 1:***

* *Ultrasonic sensor can detect upto 20meters.*

***ANSWER # 2:***

* *Increase in temperature effect ultrasonic sensor.*

***ANSWER # 3:***

1. *GPS Guided Mobile Robot*
2. *Smart Walking Cane*
3. *Collision Avoiding Robot*
4. *Unmanned car*