SMART SOLUTIONS FOR RAILWAYS:

IBM ASSIGNMENT -4:

ASSIGNMENT QUESTION:-

Write a code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100cms send "alert" to ibm cloud and display in device recent events.

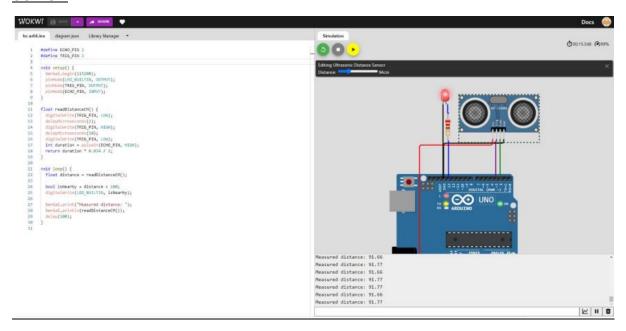
ANSWER:

CODE:

```
#define ECHO PIN 2
#define TRIG PIN 3
void setup()
Serial.begin(9600);
pinMode(LED_BUILTIN, OUTPUT);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM()
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;
}
void loop()
float distance = readDistanceCM();
bool isNearby = distance < 100;
```

```
digitalWrite(LED_BUILTIN, isNearby);
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
```

OUTPUT:



Whenever the distance is above 100 cms, it shows normal and LED is OFF

