RSA ASSIGNMENT ON ARDUINO

1. **Distance Measurement Display:** Connect an ultrasonic sensor and a 7-segment display to the Arduino. Program it to measure the distance to an object in front of the ultrasonic sensor and display the result on the 7-segment display
   https://www.tinkercad.com/things/izUzlhLU6bX-distance-measurement-display?sharecode=vMBxs9qBy9XJ1vv3aqwc7QY_5FcF4FW6bbXswVj7E7w

2. **Smart Distance Counter:** Connect both an ultrasonic sensor and a touch sensor to the Arduino. Display a counter on the 7-segment display that increments every time an object (such as a hand) crosses a specified distance threshold (detected by the ultrasonic sensor). Use the touch sensor to reset the counter.
   https://www.tinkercad.com/things/alsEfx8eRzS-smart-distance-counter?sharecode=wRHrWFU9exltHW0NnXLUXwfQJA9To3owh8e0thOMbyY

3. **Touch-Activated Range Finder:** Program the Arduino to take a distance reading from the ultrasonic sensor only when the touch sensor is activated. Display the measured distance on the 7- segment display and hold the value for 5 seconds before clearing.
   https://www.tinkercad.com/things/dcs80EkSjjy-touch-activated-range-finder?sharecode=ZIVTyeayyi52rO7aV0pNPLVYw_d_hYEOC0aE41rfwn4

4. **Countdown Timer with Obstacle-Activated Reset:** Use the touch sensor to start a countdown on the 7-segment display. If the ultrasonic sensor detects an obstacle (within a specified range) during the countdown, reset the timer. Display "E" on the display if the countdown completes without interruption.
   https://www.tinkercad.com/things/9rswiJSUDxH-countdown-timer-with-obstacle-activated-reset?sharecode=7J9d8mMGTSofh6fhqL8O7uoV567RHqES8Nan1Y28Qoc

5. **Digital Stopwatch:** Create a simple stopwatch using an LCD display and two buttons. Use one button to start/stop the stopwatch and the other to reset it.
   https://www.tinkercad.com/things/33VqzsZbXuH-digital-stopwatch?sharecode=KDH63z--zwtrvHfJfJlJY1CpYJiOSIMRw72QR29RCgQ

6. **Motion-Activated Alarm:** Connect a PIR motion sensor to the Arduino and write code to sound a buzzer when movement is detected. Add a feature to log the timestamp of each detected movement in the Serial Monitor.
   https://www.tinkercad.com/things/0yTOABh8l72-motion-activated-alarm?sharecode=StRTXdb9d7o8dC-EVfqQdLYC1xnLV9yGjITtHAbvvCw

7. **Temperature Monitoring System:** Using a DHT11 or LM35 temperature sensor, create a temperature monitoring system that reads temperature data and displays it on the Serial Monitor. Adjust the code to send a warning message if the temperature exceeds a certain threshold

https://www.tinkercad.com/things/1PzmVuR7tUf-temperature-monitoring-system?sharecode=oOEKRHyIPlDrOvF98PNDjdAkeu9m28bDkdsEfDActRo

8. **People Counter with Direction Detection**: Place an IR sensor on either side of a doorway to count the number of people entering and exiting. Display the count on a 7-segment display. Use the ultrasonic sensor to confirm direction by measuring the time an object passes between the two IR sensors.

https://www.tinkercad.com/things/gt7GN6adQvW-people-counter-with-direction-detection?sharecode=k1cCZvlMIxnRnOPs7c0hZWWrLQotRaJSu6t0TOYlwGg

keu9m28bDkdsEfDActRo