We completed the testing within our JavaScript. Essentially we inputted a random number and if that random number exceeded a certain amount alerts would pop up as exemplified below. All of our testing is done in our main.js file. Snippets where we include if statements that test for the output are shown below.

For further explanation of the functionality of the code please refer to main.js and main.html

SPEED

```
if (speed < 80) {
    document.getElementById("speedingAlert").innerHTML =
        "SPEED OK";
if (speed > 80) {
    document.getElementById("speedingAlert").innerHTML =
        "SPEED WARNING";
if (speed > 90) {
      document.getElementById("speedingAlert").innerHTML =
          "SPEEDING";
```

ENGINE TEMPERATURE

```
  if (etemp < 200) {
      document.getElementById("tempAlert").innerHTML =
          "GREEN: NO ALERT, ENGINE OK";
  }
  if (etemp > 200) {
      document.getElementById("tempAlert").innerHTML =
          "YELLOW ALERT ENGINE TMP";
  }
  if (etemp > 250) {
      document.getElementById("tempAlert").innerHTML =
          "RED ALERT ENGINE TMP";
```

TRAFFIC SIGNS

```
if (whatSignal == "No nearby traffic signal") {
    document.getElementById("signAlert").innerHTML =
        "NO SIGNS";
```

```
  }
  if (whatSignal == "Red Light"){
    document.getElementById("signAlert").innerHTML =
        "RED LIGHT";
  }
  if (whatSignal == "Stop Sign"){
    document.getElementById("signAlert").innerHTML =
        "STOP";
  }
  if (whatSignal == "All Way Stop Sign"){
    document.getElementById("signAlert").innerHTML =
        "STOP";
  }
  if (whatSignal == "Yield Sign"){
    document.getElementById("signAlert").innerHTML =
        "YIELD";
  }
```

RPM

```
if(rpm > 500){
    document.getElementById("tractAlert").innerHTML =
        "TRACTION LOSS";
  }
  else {
    document.getElementById("tractAlert").innerHTML =
        "NO TRACTION LOSS";
  }
  if(rightLineDist > 45 || leftLineDist >45){
    document.getElementById("driftAlert").innerHTML =
        "DRIFTING";
  }
  if(rightLineDist <= 45 && leftLineDist <=45){
    document.getElementById("driftAlert").innerHTML =
        "NOT DRIFTING";
  }
```

BLINDSPOT

```
if(blindS == 1){
   document.getElementById("blindAlert").innerHTML =
       "OBJECT IN BLINDSPOT";
 }
 if(blindS == 0){
   document.getElementById("blindAlert").innerHTML =
       "NO OBJECT IN BLINDSPOT";
 }
```

CRUISE CONTROL ACTIVATED?

```
 if(cruiseOn == 0){
   document.getElementById("cruiseAlert").innerHTML =
       "CRUISE OFF";
 }
 if(cruiseOn == 1){
   document.getElementById("cruiseAlert").innerHTML =
       "CRUISE ON";
 }
```

COLLISION DETECTOR

```
let isMoving = Math.floor(Math.random() * 2);
 let objectDist = Math.floor(Math.random() * 50);
 if (isMoving == 1) {
   // object IS moving
   if (objectDist <= 10) {
     document.getElementById("objectAlert").innerHTML =
         "COLLISION";
   } else if (objectDist <= 30) {
     document.getElementById("objectAlert").innerHTML =
         "OBJECT APPROACHING";
   } else {
     document.getElementById("objectAlert").innerHTML =
```

```
          "NO OBJECT";
    }
  } else {
    // object is NOT moving
```