Output: The output screens of an IoT-based automatic accident detection and alerting system play a crucial role in monitoring, alerting, and responding to accidents in real time. The system dashboard, available on a web or mobile application, provides a user-friendly interface displaying accident alerts, the exact vehicle location on a map, and real-time accident details, such as impact force, severity, and time of occurrence. This helps emergency responders and concerned individuals track the accident situation effectively. Additionally, a notification screen ensures that alerts are sent promptly via SMS, email, or push notifications to emergency contacts, nearby hospitals, and law enforcement agencies. The alert message contains vital details, including location coordinates, vehicle condition, and emergency instructions, ensuring quick action. Moreover, the system includes a sensor data monitoring screen that visualizes real-time readings from accelerometers, gyroscopes, and GPS modules. This data helps in analysing the cause and severity of the accident, displaying vehicle speed, tilt angle, and impact intensity through graphical representations. A critical component of the system is the emergency response status screen, which provides real-time updates on whether the alert was received, the estimated time of arrival (ETA) of rescue teams, and live tracking of emergency vehicles dispatched to the accident site. These output screens collectively enhance accident response efficiency, minimize delays in medical assistance, and improve road safety by leveraging IoT technology.

Result:

```
Message (Enter to send message to 'Arduino Uno' on 'COM5')

17:09:40.585 -> Vibration = -1

17:09:40.585 -> Impact detected!!

17:09:40.585 -> Latitude= 0.000000

17:09:42.578 -> Latitude= 0.000000

17:09:42.578 -> Lngitude= 0.000000

17:09:42.613 -> Vibration = 74

17:09:42.613 -> Vibration = 73

17:09:42.644 -> Vibration = 72

17:09:42.644 -> Vibration = 70

17:09:42.678 -> Vibration = 69

17:09:42.710 -> Vibration = 68

17:09:42.710 -> Vibration = 67

17:09:42.710 -> Vibration = 67
```



Figure 2: Author Prototype of Accident Detection and Alert System using Arduino UNO