Objective:

Implement a GPS data retrieval and processing system

Step 1:

Identify and break down elements needed for the solution into three areas:

1. Input Needed

Input from 4 pulled up push buttons

2. Processing

Get the Gps data as a string and tokenize the string.
Display corresponding information according to the button pressed.

3. Output

Shows retrieve data message on both putty and Lcd display till the gps data is fed to the system.

Show processing message for 5 seconds.

Show task selection menus.

Time data is displayed when button 1 pressed

Latitude data is displayed when button 2 pressed.

Longitude data is displayed when button 3 pressed

Altitude data is displayed when button 4 pressed

Step 2

Identify what you don't know or know how to do.

Don't know how to tokenize the string

Don't know how to convert string into integer value

Don't know how to convert string into float values.

How to split the integer into format given

Don't know how to print the zero before the integer or float value

Step 3:

Find out/figure out what you don't know or know how to do.

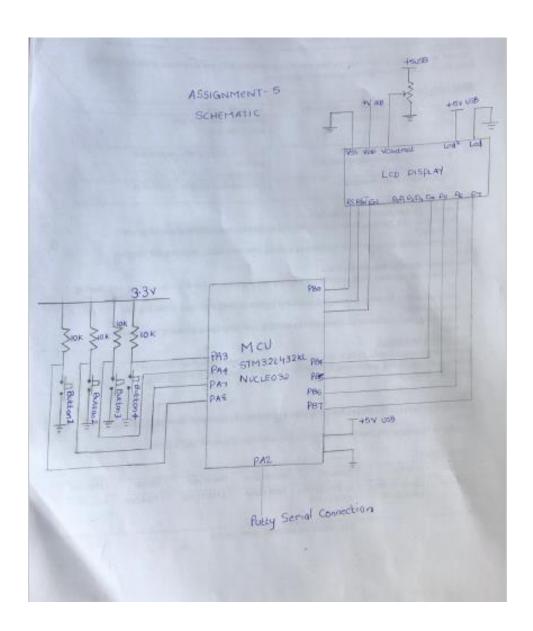
Used strtok function to tokenize the string

Used atoi and atof function to convert string into integer and float respectively

Used printf function to pad zero infront of integers or float

The data were made into the format using substrings by using strncpy function

Schematic



Implemented circuit

