INSTITUTE OF ENGINEERING

AND MANAGEMENT

PROGRAMMING FOR PROBLEM SOLVING

LAB REPORT

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SECTION : J

ROLL NO. : 29

ENROLMENT NO. : 12022002004049

SUBJECT CODE : ESC103(PR)

VARIABLE DESCRIPTION

Variable Name	Data type	Purpose
*curl	CURL	Use it to call curl_easy_init() function everytime CURL library is used, that is, to make HTTP request
res	CURLcode	To receive HTTP requests
*root	Pointer to cJSON object	Extracts JSON data from parameter 'root' from the API
*weather	Pointer to cJSON object	Extracts JSON data from 'weather' parameter under 'root' parameter
*name	Pointer to cJSON object	Extracts JSON data from 'name' parameter under 'root' parameter
*description	Pointer to cJSON object	Extracts JSON data from 'description' parameter under 'root' parameter
*temp	Pointer to cJSON object	Extracts JSON data from 'temp' parameter under 'main' parameter
*temp_min	Pointer to cJSON object	Extracts JSON data from 'temp_min' parameter under 'main' parameter
*temp_max	Pointer to cJSON object	Extracts JSON data from 'temp_max' parameter under 'main' parameter
*pressure	Pointer to cJSON object	Extracts JSON data from 'pressure' parameter under 'main' parameter
*humidity	Pointer to cJSON object	Extracts JSON data from 'humidity' parameter under 'main' parameter

Function description:

convert( ) –

Takes temperature in Kelvin as parameter and returns temperature in degree Celsius.

Return type – double

write_callback( ) –

Accepts the contents of the API and it's sizes. This function extracts the JSON data from API and prints them respectively.

Return type – size_t

main( ) –

This is the main function of the program where the curl variables are declared and respective functions are called.

Return type – int

Database Description:

The program uses OpenWeather api to retrieve the current weather data from the server using JSON and CURL libraries. The API responses datas like, Location, current temperature, maximum and minimum temperature, pressure, humidity, wind speed and much more.

To retrieve such data, cjson library is used. Each parameters are declared using object pointers and are called from the API.

OUTPUT: