ASSIGNMENT-5

1. Software user input to hardware action

**Code:**

**while** (1)

{

/\* USER CODE END WHILE \*/

/\* USER CODE BEGIN 3 \*/

HAL\_UART\_Receive(&huart1, UART1\_rxBuffer,12,10000);

HAL\_UART\_Transmit(&huart1,UART1\_rxBuffer,**sizeof**(UART1\_rxBuffer),10000);

**if**(\*UART1\_rxBuffer=='1'){

HAL\_GPIO\_WritePin(led\_GPIO\_Port, led\_Pin, 1);

HAL\_GPIO\_WritePin(led2\_GPIO\_Port, led2\_Pin, 0);

HAL\_UART\_Transmit(&huart1, (uint8\_t \*)"led1 on!", 10,10000);

}

**if**(\*UART1\_rxBuffer=='2') {

HAL\_GPIO\_WritePin(led\_GPIO\_Port, led\_Pin, 1);

HAL\_GPIO\_WritePin(led2\_GPIO\_Port, led2\_Pin, 1);

HAL\_UART\_Transmit(&huart1, (uint8\_t \*)"led1 and led2 on!", 30,10000);

}

**if**(\*UART1\_rxBuffer=='3'){

HAL\_GPIO\_WritePin(led\_GPIO\_Port, led\_Pin, 0);

HAL\_GPIO\_WritePin(led2\_GPIO\_Port, led2\_Pin, 0);

HAL\_UART\_Transmit(&huart1, (uint8\_t \*)"led1 and led2 off!", 20,10000);

}

**if**(\*UART1\_rxBuffer=='4'){

**while**(1){

HAL\_GPIO\_WritePin(led\_GPIO\_Port, led\_Pin, 1);

HAL\_Delay(1000);

HAL\_GPIO\_WritePin(led\_GPIO\_Port, led\_Pin, 0);

HAL\_GPIO\_WritePin(led2\_GPIO\_Port, led2\_Pin, 1);

HAL\_Delay(1000);

HAL\_GPIO\_WritePin(led2\_GPIO\_Port, led2\_Pin, 0);

HAL\_UART\_Transmit(&huart1, (uint8\_t \*)"Invalid Input!", 20,10000);

}

}

HAL\_UART\_Transmit(&huart1, UART1\_endBuffer, **sizeof**(UART1\_endBuffer),10000);

}

**Configuration:**

**Graphical user interface, application

Description automatically generated**

**Graphical user interface, application

Description automatically generated**

Ouput:

From terra terminal

Graphical user interface, text, application

Description automatically generated

Output on MCU :

