**Report**

A brief report detailing the implementation process:

* An explanation of how the moving text is implemented:

scrolling Entire Display in a Circular way using LCD\_SHIFT\_ENTRIE\_DISPLAY\_TO\_RIGHT command and looping 32 times with delay 300ms.

* The process of creating custom characters:

Create an array of 8 character to represent 5\*8 pixels and draw every character.

I wrote my name in arabic **“أية”**.

* The process of loading custom characters:

Create a function to add byte by byte to the desired location in CGRAM .

The loc parameter should be from 0 to 8 added to CGRAM address=0x40 after multiplied by 8.

* The process of displaying custom characters:

Start the cursor from the second line for the first time then send the address to function LCD\_enuDisplayChar(loc).

* I divide my APP layers into files: making SCROLL\_MESSAGE configurable and interface 4 function used in main:

void APP\_voidInit(void);

void APP\_voidScrollText();

void APP\_voidCreateCustomChar(u8 loc, u8 \*pattern);

void APP\_voidDisplay\_Custom\_Chars(u8 loc);

* Running Process

1. Display SCROLL\_MESSAGE : "Aya Elsayed Ismael>> Embedded System" in the first line.
2. Display my name in Arabic **“أية”** in the second line.
3. Scrolling forever.