**LAB # 07**

**INTRODUCTION TO MATLAB**

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**Spring 2024**

**CSE-301L**

**Operating System Lab**

Submitted by: **NAVEED AHMAD**

Registration No.: **22PWCSE2165**

Class Section: **B**

“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

Student Signature: A blue line drawing on a white background

Description automatically generated

Submitted to:

**Dr. Safdar Nawaz Khan Marwat**

05/05/2024.

Department of Computer Systems Engineering

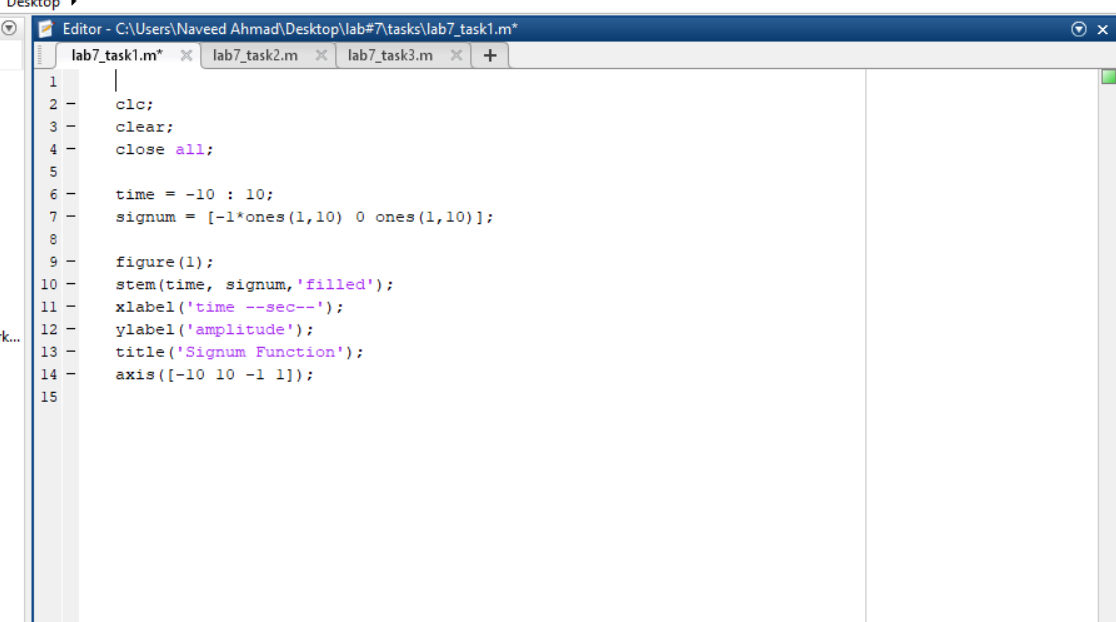
University of Engineering and Technology, Peshawar

**TASK 01:**

Using ones function, plot the signum sequence over interval ‐ 10 ≤ n ≤ 10. It can be defined as:



**CODE:**

****

**OUTPUT:**

**A screenshot of a graph

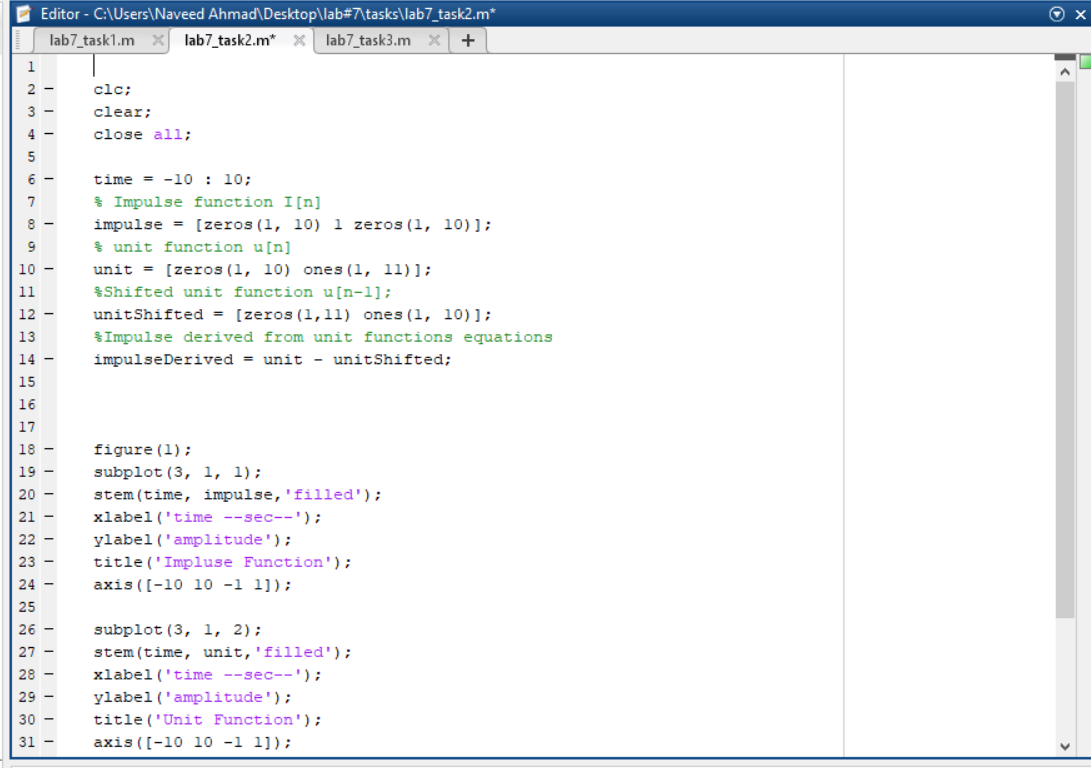
Description automatically generated**

**TASK 02:**

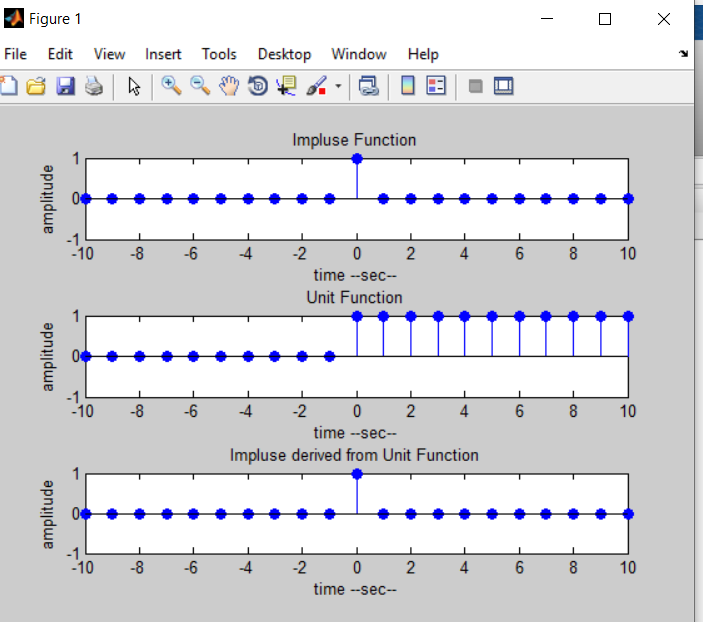
Prove the following:

δ[n] = u[n] − u[n − 1]

**CODE:**

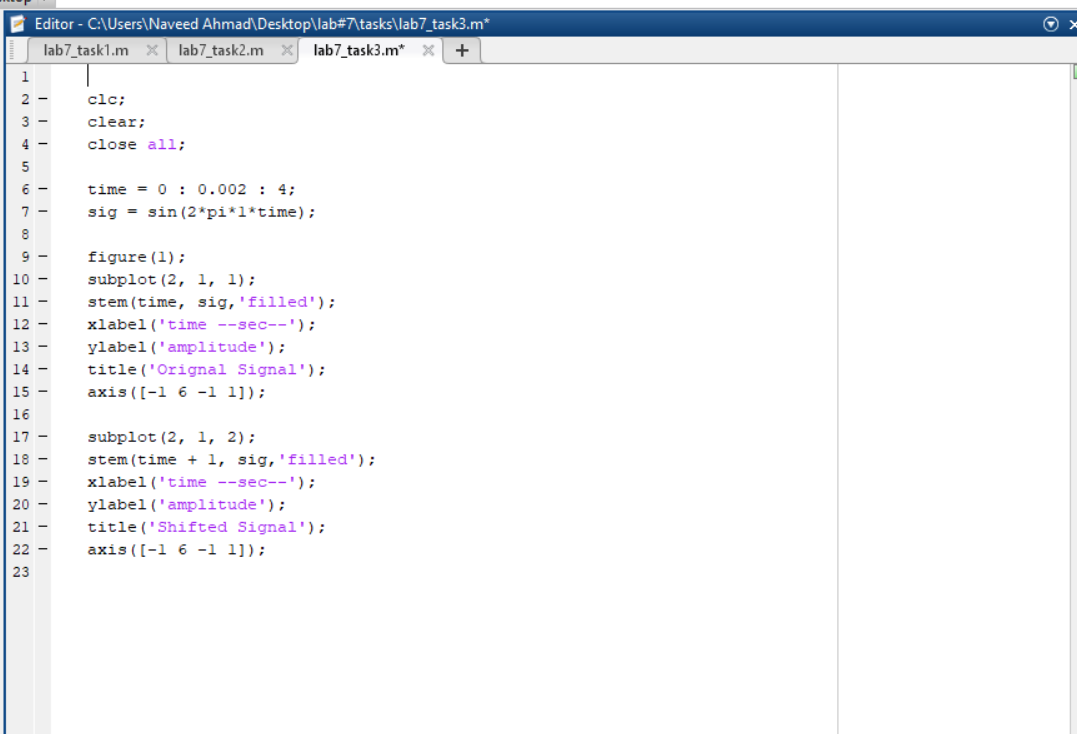


**OUTPUT:**

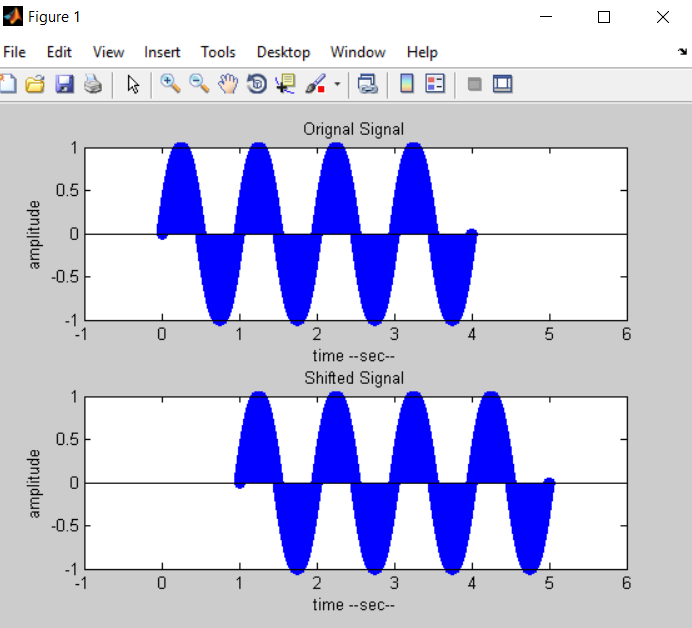


**TASK 03:**

Delay the original signal given in section 7.3.1 by 1 sec. Plot both the delayed and original signal in the same figure.

**CODE**

**OUTPUT:**



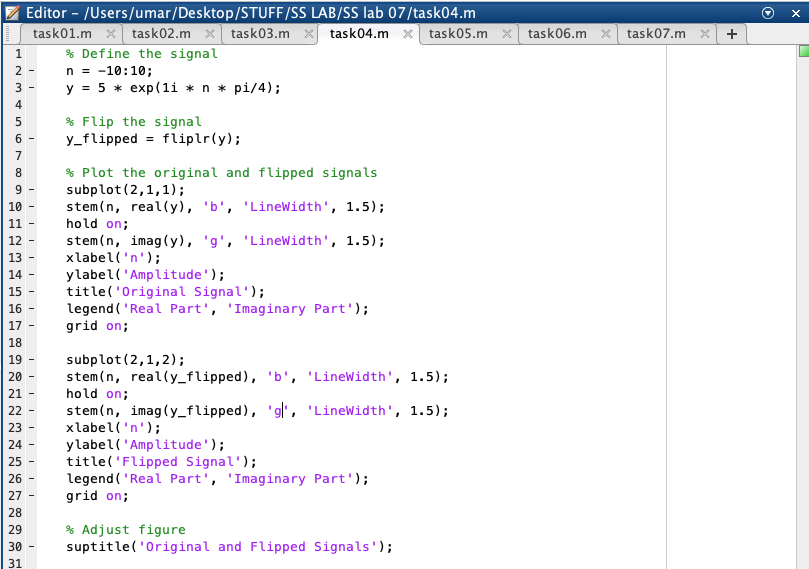
**TASK 04:**

Flip the following signal:

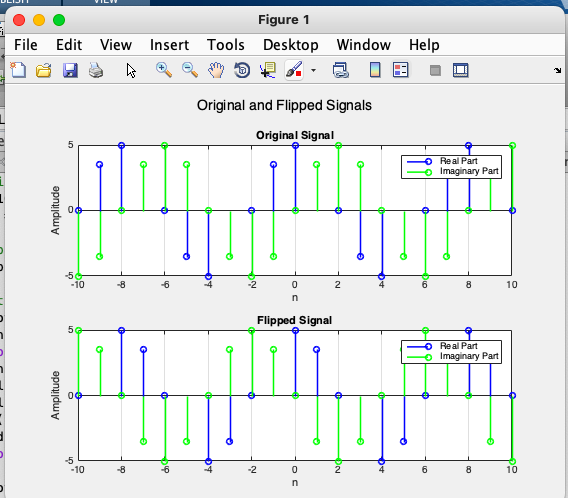


Plot the original signal as well as the flipped one in the same figure.

**CODE:**



**OUTPUT:**



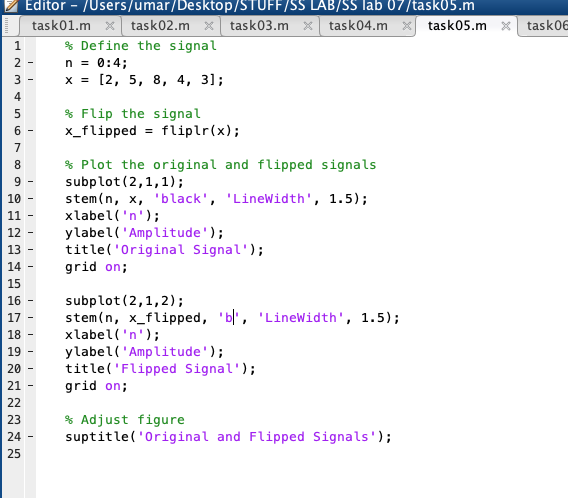
**TASK 05:**

Flip the following signal:

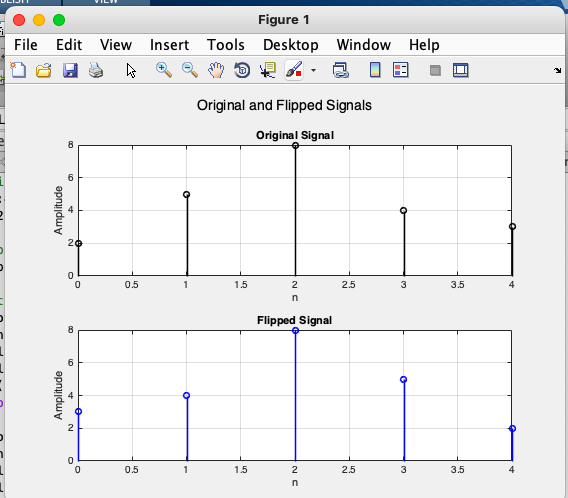
x[n] = 2δ[n] + 5δ[n‐ 1] + 8δ[n‐ 2] + 4δ[n‐ 3] + 3δ[n‐ 4]

Plot the original signal as well as the flipped one in the same figure.

**CODE:**



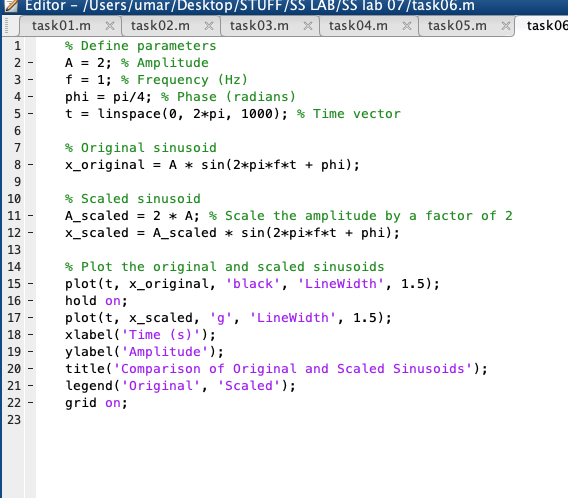
**OUTPUT:**



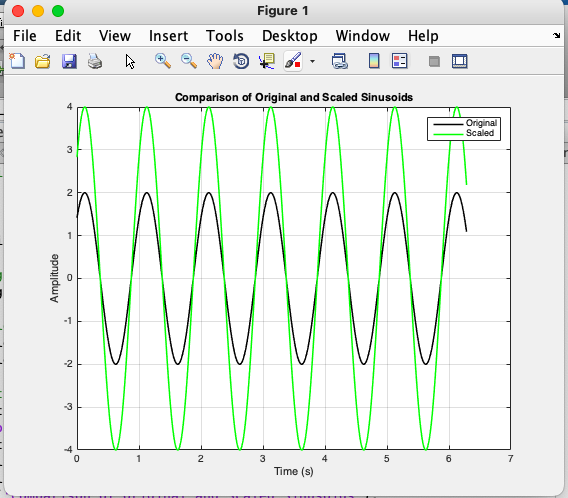
**TASK 06:**

Scale the continuous‐time sinusoid used in signal shifting example in section 7.3.1 by a factor of 2.

**CODE:**



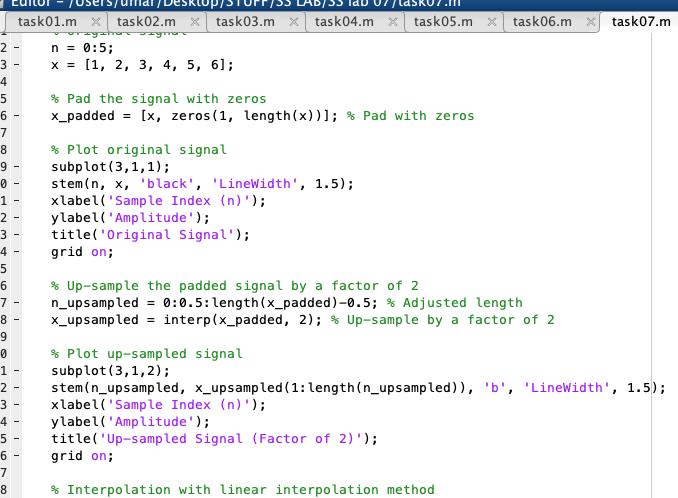
**OUTPUT:**



**TASK 07:**

Use interp command in the program in section 7.3.4 to interpolate (up‐sample) the signal by a factor of 2.

**CODE:**



**OUTPUT:**

