Experiment No. 2

AIM

Study of time response of a second order system subjected to various inputs.

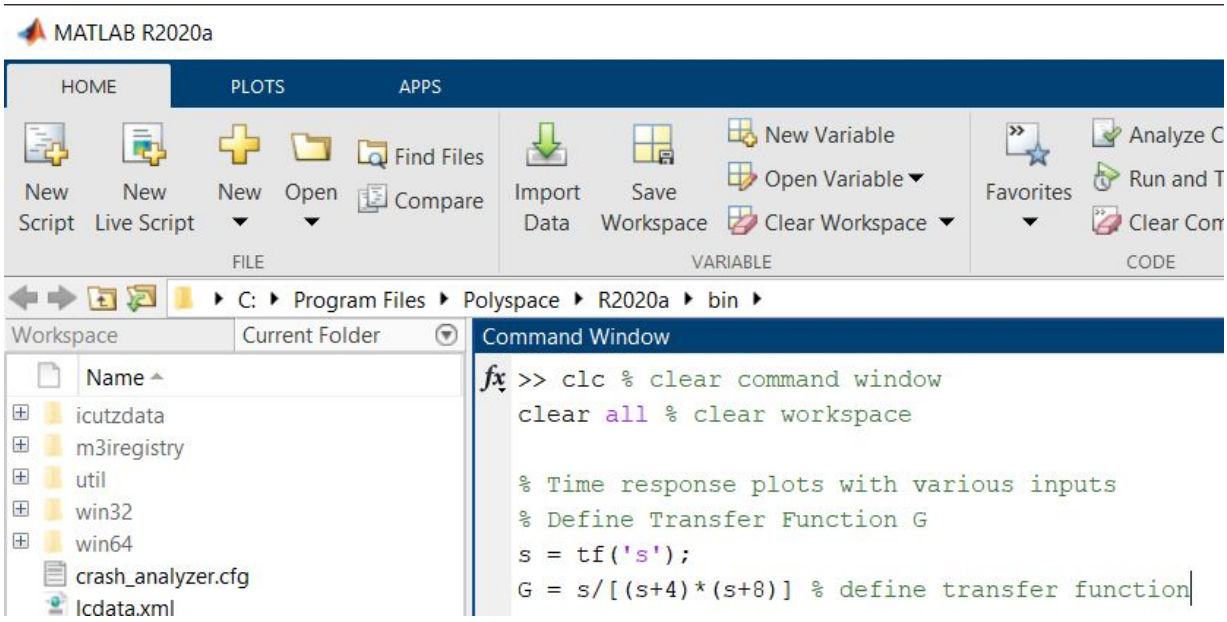
OBJECTIVE

To plot the Time Response of the given transfer function with different input signals:

$$G(s) = \frac{s}{(s+4)(s+8)}$$

a). Impulse Input
b). Step Input
c). Ramp Input
d). Parabolic Input

MATLAB Code and Output




```
G =

        s
  ---------------
  s^2 + 12 s + 32
```

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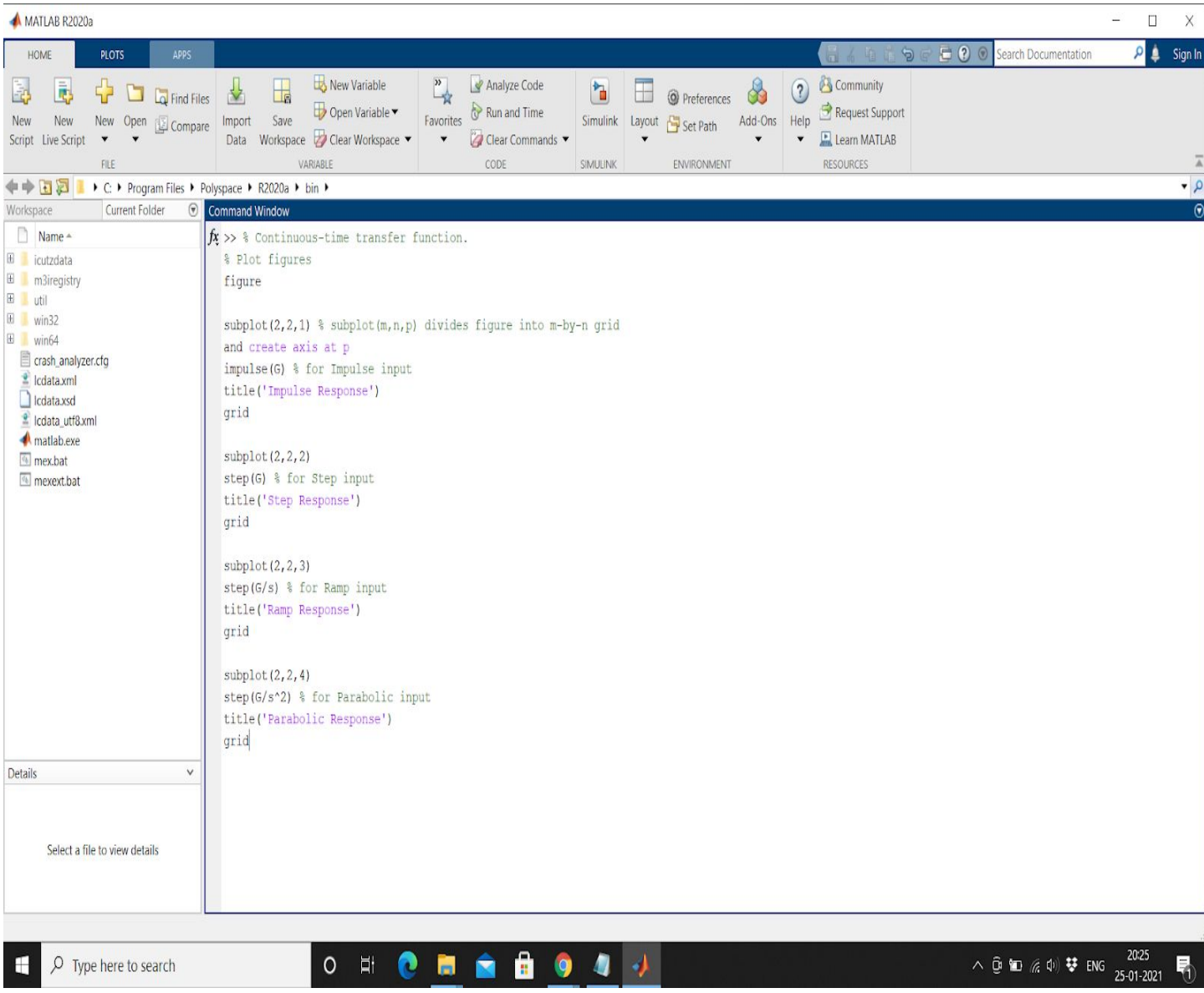

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Command Window

```
>> % Continuous-time transfer function.
% Plot figures
figure

subplot(2,2,1) % subplot(m,n,p) divides figure into m-by-n grid
and create axis at p
impulse(G) % for Impulse input
title('Impulse Response')
grid

subplot(2,2,2)
step(G) % for Step input
title('Step Response')
grid

subplot(2,2,3)
step(G/s) % for Ramp input
title('Ramp Response')
grid

subplot(2,2,4)
step(G/s^2) % for Parabolic input
title('Parabolic Response')
grid
```

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