

```
%taking input from user for the ellipse
a=input('length of semi- major axis of the ellipse');
b=input('length of semi - minor axis of the ellipse');
h=input('X coordinate of the centre of the ellipse');
k=input('Y coordinate of the centre of the ellipse');
```

```
%Calculating coordinated of ellipse
```

```
angle=0:0.1:2*pi;
x=h+a*cos(angle);
y=k+b*sin(angle);
```

```
%Ploting ellipse on graph
```

```
plot(x,y);
axis equal
title('PLOT OF ELLIPSE having major axis as x-axis by UE219018 Deepak Kuntal');
xlabel('x axis');
ylabel('y axis');
```

```
// tabulated cyclinder
```

```
% Define the range of parameters
```

```
u = linspace(0, 2*pi, 100); % Example range for u
v = linspace(0, 1, 50); % Example range for v
```

```
% Define the base curve parametric equation
```

```
P_base = @(u) [cos(u); zeros(size(u)); sin(u)];
```

```
% Define the cylinder axis points
```

```
P1 = [0; 0; 0]; % Modify as needed
P2 = [1; 2; 3]; % Modify as needed
```

```
% Calculate the direction vector
```

```
d = P2 - P1;
```

```
% Generate points on the cylinder's surface
```

```
points = zeros(3, numel(u), numel(v));
for i = 1:numel(u)
    for j = 1:numel(v)
        points(:, i, j) = P_base(u(i)) + v(j) * d;
    end
end
```

```
% Reshape the points for plotting
```

```
[X, Y, Z] = meshgrid(u, v, v);
X = squeeze(points(1, :, :));
Y = squeeze(points(2, :, :));
Z = squeeze(points(3, :, :));
```

```
% Plot the cylinder
```

```
figure;
surf(X, Y, Z);
xlabel('X');
ylabel('Y');
zlabel('Z');
title('Tabulated Cylinder plot by Deepak KUntal UE219018');
```

