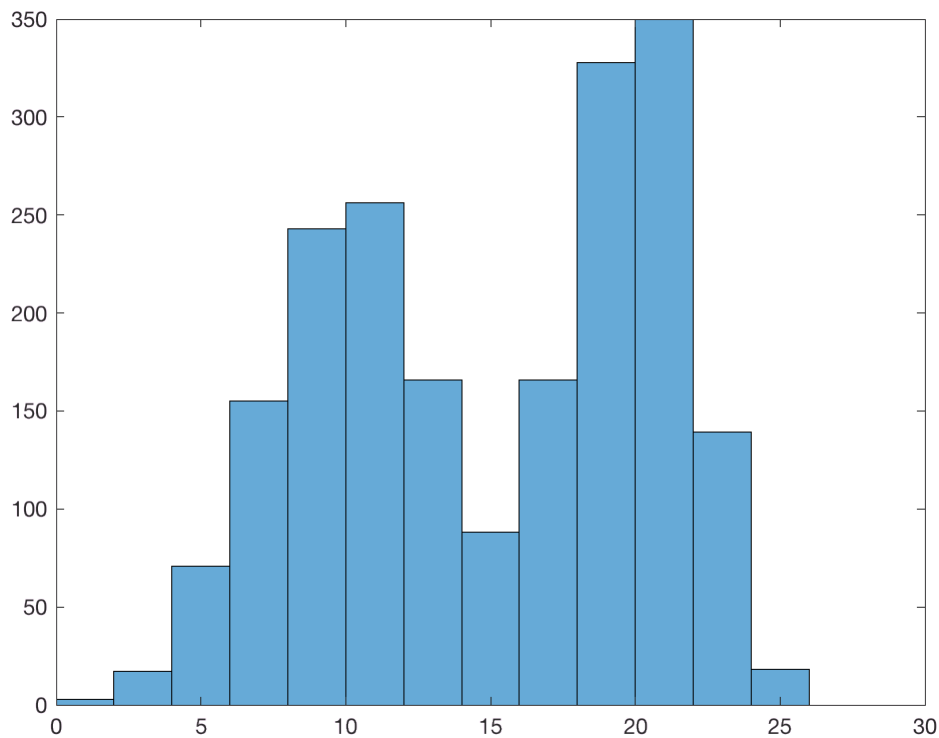


Simulate the central limit theorem with bimodal data

```
% data generation  
a = [normrnd(10,3,1000,1);normrnd(20,2,1000,1)];  
histogram(a);
```



random sampling

```
% random sampling n = 10, 30, 60, 100  
  
sample_n = [10 30 60 100];  
for iter = 1:10000  
    for i = 1:numel(sample_n)  
        m{i}(iter,1) = mean(a(randperm(numel(a),i))));  
    end  
end
```

figure

```
for i = 1:numel(m)  
    subplot(2,2,i);  
    histogram(m{i});  
    set(gca, 'xlim', [0 25]);  
end
```

```
title(['sample n = ' num2str(sample_n(i))]);  
end
```

