```
N = [10000]; % number of sub intervals to divide [0,1] into
cutoff_points = [1.356]; % 95% point of the KS distribution (see
 notes)
rejections = 0;
for j = 1:1000 % we are going to run 1,000 tests
    abs_diff = zeros(1,length(N));
    for i = 1:length(N)
        x = rand(N(1,i),1); % create a sample of size N
        edges = sort(x);
        emp_cdf = cumsum(histc(x,edges))/length(x); % compute F_N(x)
        % note F(x) = x for x in [0,1] i.e. y = x
        % the x values for graphing F_N(x) are in edges so the y
 values for
        % F(x) are also equal to edges
        abs_diff(1,i) = max(abs(emp_cdf-edges));
    end
    ks_stats = sqrt(N).*abs_diff; % compute the test statistic - D_N
    if (ks_stats > cutoff_points(1,1)) % conduct the test
        rejections = rejections + 1;
    end
end
text = ['The rand() routine had a KS-test rejection rate of ',...
    num2str(rejections*100/1000),'% versus an expected rejection rate
 of '...
    ,num2str((1-0.95)*100),'%.'];
disp(text);
```

```
The rand() routine had a KS-test rejection rate of 4.4% versus an
 expected rejection rate of 5%.
```

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