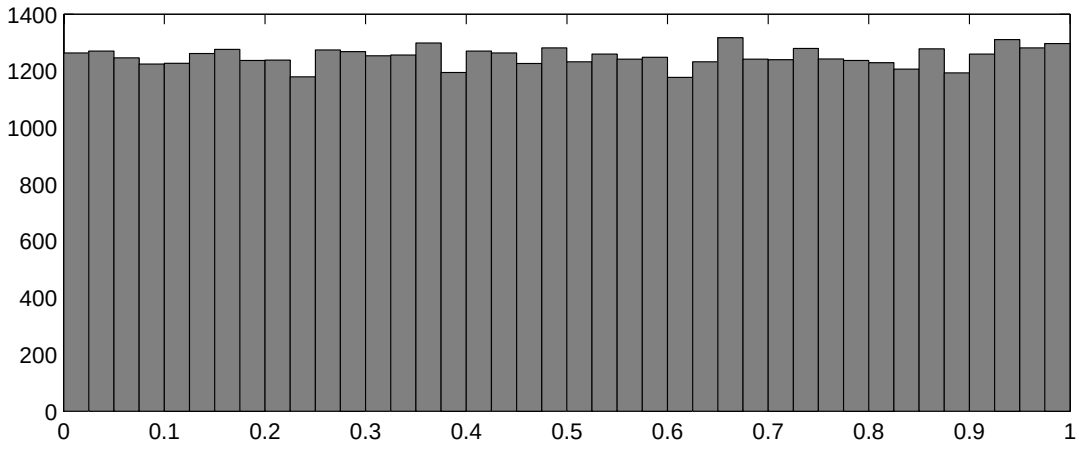
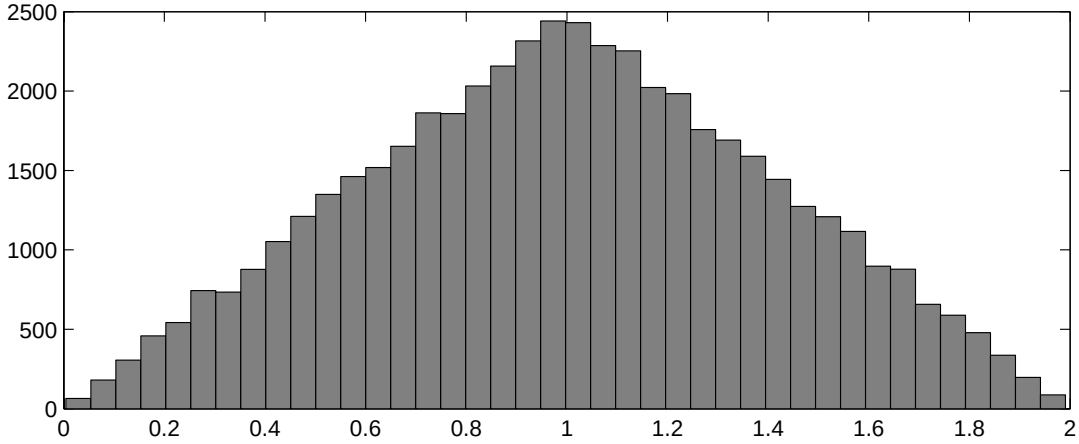
SampleUniformSums.m

```
function X = SampleUniformSums(nSamples,nSum)

% function X = SampleUniformSums(nSamples,nSum)
%
% Returns nSamples i.i.d. random variables, each
% of which is a sum of nSum i.i.d. uniform rv's.

% loop through the number of samples
for n = 1:nSamples

    %%%%%%%%%%%%%%%%%%%%%%%%%%%%
    % Generate one sample from
    % a sum of uniform rv's
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%

    % initialize the sum to zero
    Usum = 0;
    % add up nSum i.i.d. uniform rv's
    for k = 1:nSum
        Usum = Usum + rand;  % rand is i.i.d. uniform
    end

    % record the nth random variable
    X(n) = Usum;
end

return
```



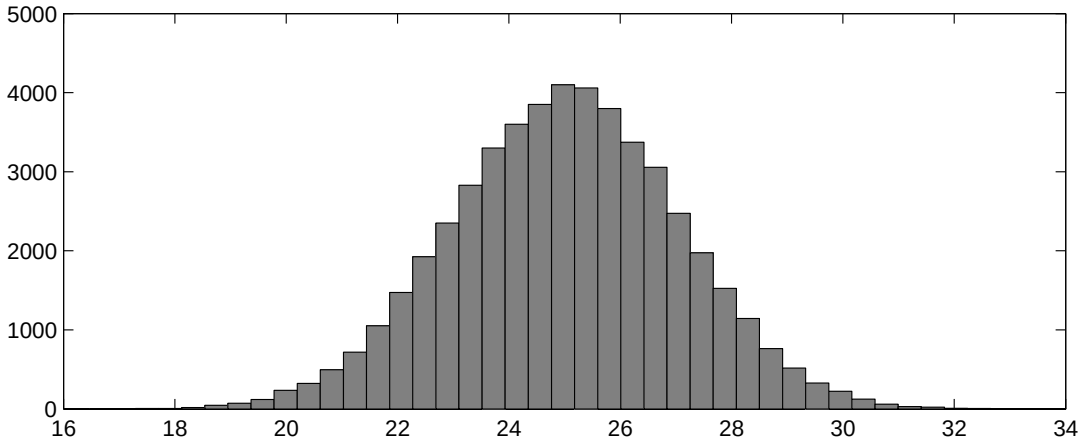
Uniform r.v.'s. The above figure was made with the following commands:

```
X = SampleUniformSums(50000,1);
hist(X,40)
```



Sum of 2 uniform r.v.'s. The above figure was made with the following commands:

```
X = SampleUniformSums(50000,2);
hist(X,40)
```



Sum of 50 uniform r.v.'s. The above figure was made with the following commands:

```
X = SampleUniformSums(50000,50);
hist(X,40)
```