
```
N = 1000;

T = 10;
delT = 0.01;
n = T/delT;

exceedct = 0;

for a = 1:N
    Zs = normrnd(0,1,n,1);
    A = sqrt(delT).*tril(ones(n,n));
    walk = A*Zs;
    maxval = max(walk);
    if maxval >= 4
        exceedct = exceedct + 1;
    end
end

disp('Proportion Brownian motion exceeded 4:');
disp(exceedct/N);

disp('Theoretical value: ');
disp(2*(1 - normcdf(4/sqrt(10))));

disp('We can see that the estimated and theoretical values are quite
close to each other.');
```

Proportion Brownian motion exceeded 4:
0.1990

Theoretical value:
0.2059

*We can see that the estimated and theoretical values are quite close
to each other.*

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