MATH FINANCE LAB 2

Part 1

Simulate the random walk:

$$M_k(\omega) = \sum_{j=1}^{k} X_j(\omega), \;\; k = 1, 2..$$

where X_j takes the values +1 or -1 with probability one half. You will need to produce some output for the 4 following combinations of values:

Number of scenarios	time $k =$
50	50
50	100
5000	50
5000	100

You should output
i) a histogram (with at least 10 bins) of the empirical density
ii) the sample mean
iii) the sample variance

Part 2

Same question as above, but for the scaled symmetric random walk $W^{(n)}(t)$, for the parameters $n = 2$ and $t = 5$.