

Note for Assignment-2

Please make note of the following points.

Question 3:

1. ‘Random walk’ in this question refers to a walk that moves from a vertex v to a neighbour of v selected **uniformly at random**.
2. You are expected to calculate expectation in two ways:
 - (a) The summation should range from **2 to 6** i.e., probability of hitting time being greater than 6 must be assumed to be negligible. Please save the corresponding output file as *HittingTime.txt* following the template given along with the assignment.
 - (b) You should estimate a good upper limit of the summation i.e., find the **smallest** x such that the expectation if the summation is from 2 to x is at most 0.01 lesser/greater than the expectation we get if the summation is from 2 to $x + 1$. Report this x and the corresponding expectation in a output file named as *HittingTimeAccurate.txt*. In this output file, x is to be printed adjacent to score as follows:

$$1 \ 2 \ ScoreOfEdge(1, 2) \ x_{(1,2)}$$

3. For a more elaborate explanation, please watch the tutorial video of 19th April, 2021 (Monday).

Question 4:

1. This question is **OPTIONAL**. Doing this will yield you bonus marks (maximum of 2 marks).
2. Since the graph is undirected, you are expected to calculate rooted PageRank of an edge e_i between the vertices v_i^1 and v_i^2 as follows:

$$PR_{\alpha}(e_i) = \frac{PR_{\alpha}(v_i^1, v_i^2) + PR_{\alpha}(v_i^2, v_i^1)}{2}$$

3. In case you use any external libraries for this question, please **include the libraries** along with your c file in the same directory.

You are **not permitted to use any libraries** other than `stdio.h` and `stdlib.h` for any question other than the 4th.