HACETTEPE UNIVERSITY

DEPARTMENT OF
COMPUTER ENGINEERING

BBM204 PROGRAMMING LAB.
Quiz 4

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Question 1

Here is step by step assumption of running Prim's algorithm. Answer is: result is same, performance is different.

A-C

C-J

C-D

D-B

B-H

H-I

H-G

J-E

H-F

Question 2

a. What is necessary to satisfy a worst-case for the eager version of Prim's algorithm?

Having a complete graph and maximum number of edges would mean increased insert operations and also if every vertices edges have decreasing weight while iterating than we would overwrite the main list every iteration.

b. What is necessary to satisfy a worst-case for the lazy version of Prim's algorithm?

Having a complete graph and maximum number of edges would increase insert operations and complicate sorting the algorithm. If all edges have same weight than after adding reading new edges we must delete circles (obsolete ones) every time.

c. What is the worst-case complexity for the eager version of Prim's algorithm?

Depends on the priority queue implementation. E log V with binary heaps.

d. What is the worst-case complexity for the lazy version of Prim's algorithm?

E log E

REFERENCES

Quiz Paper
LaTex Tutorials