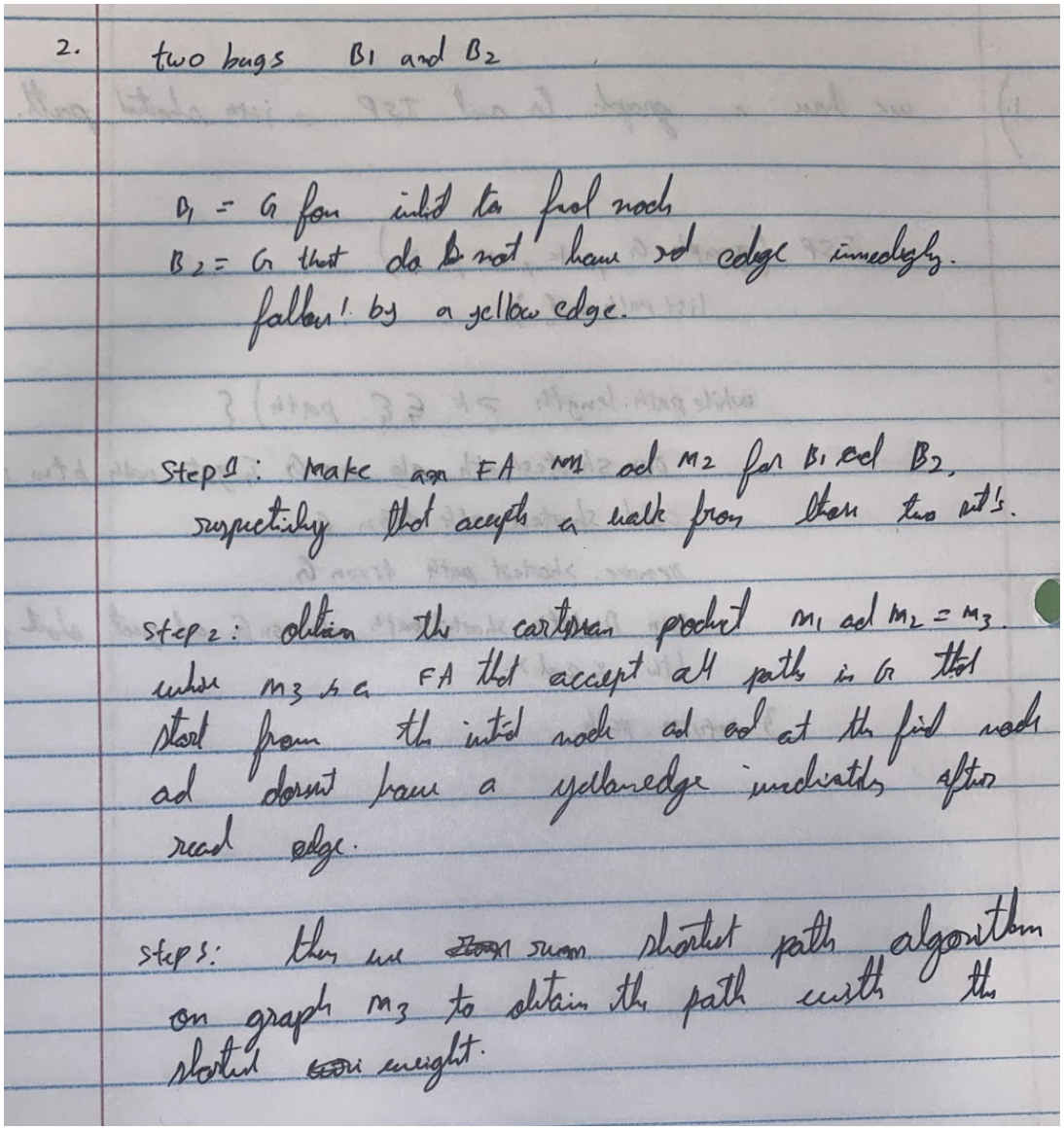
Hw - 10

1) we have a graph G and ISP = ith shortest path.

```
ISP (graph G, k, x, y)
    list path = { }

    while path.length >= k && path) {
        run shortestpath alg on G & get path btw x & y.
        add shortest path from G.
        remove. shortest path from G.
        run Dijkstra shortest path alg on G ad get short path.
        btw x and y.
    } return. path.
```



4. Similar steps are taken as if the walk were increasing weight, but this time, the shortest path method is changed to accommodate multiplication. To make this work, we must utilize the log property and swap out the weight "a" with log(a): log(x * y) = log(x) + log (v). When the current node is x, meaning will use log(x), and when the current node is y, meaning will use leg(y). The shortest path algorithm can be used with this modification to find the shortest path.