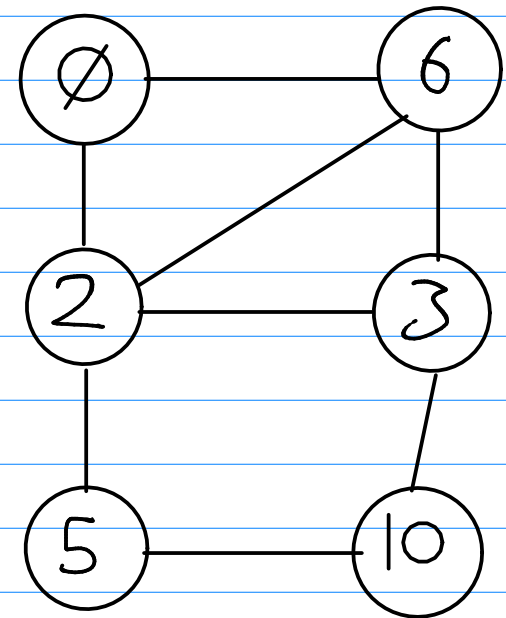
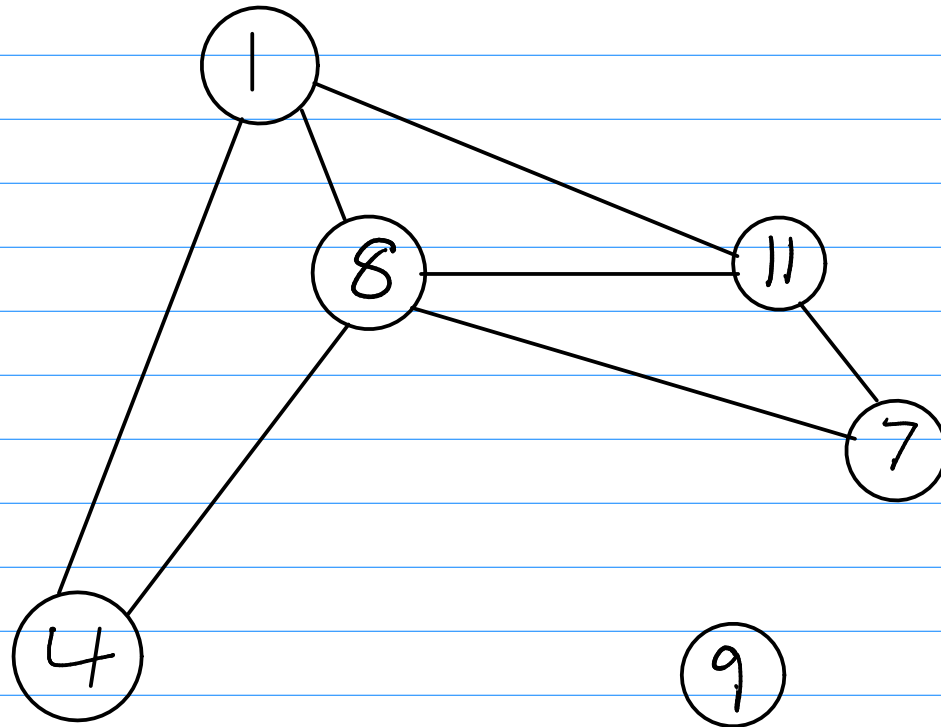


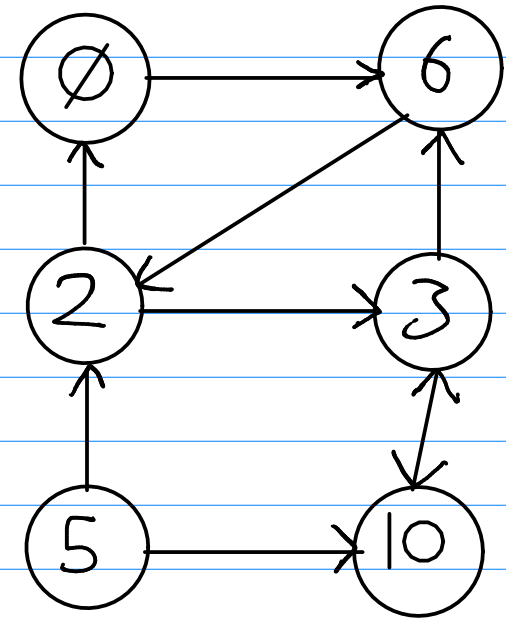
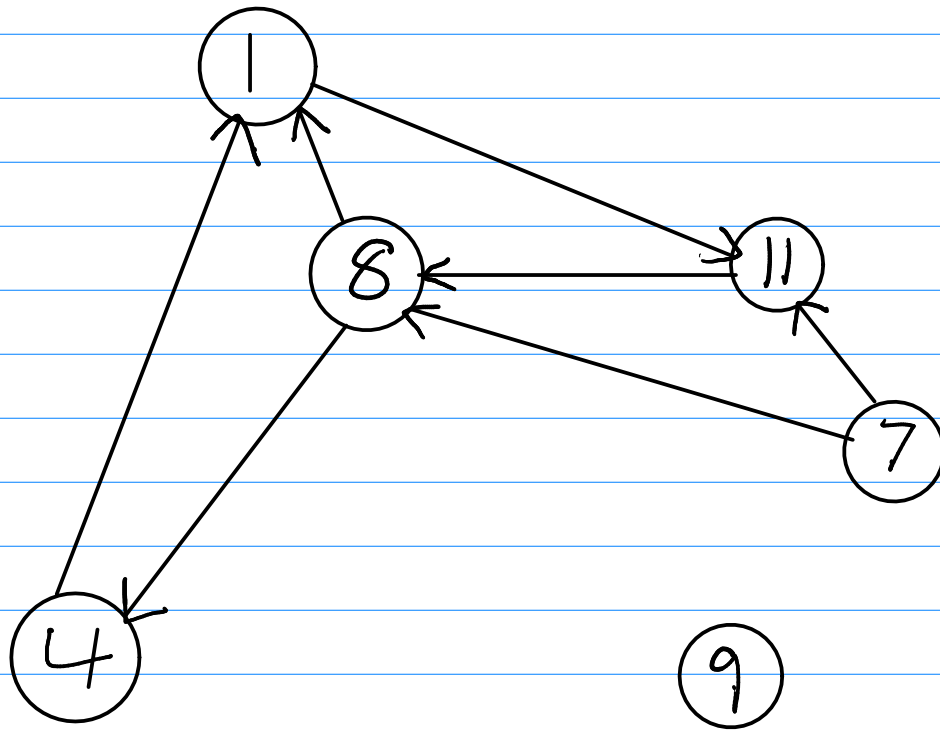
4.1.2



4.1.4

```
public boolean hasEdge(int v, int w) {  
    if (adj[v].get(w) != null || adj[w].get(v) != null) {  
        return true;  
    } else {  
        return false;  
    }  
}
```

4.2.2

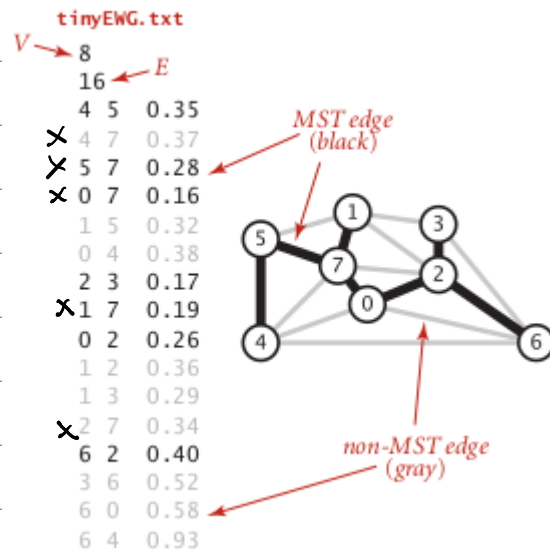


4.2.4

```
public boolean hasEdge(int v, int w) {  
    if (adj[v].get(w) != null) {  
        return true;  
    } else {  
        return false;  
    }  
}
```

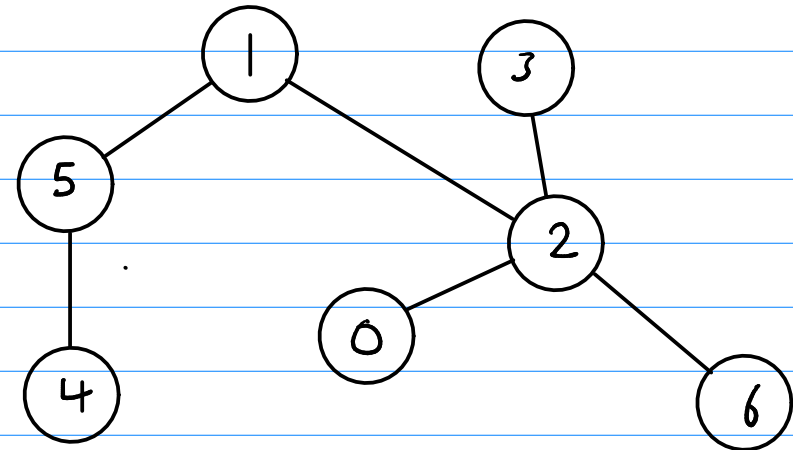
4.3.6

original



New

remove 7



Small Interactive Game

For this small text-based game, the player must traverse a maze until he or she finds the sword hidden in the maze. Then, the player must defeat the dragon to claim victory.

Mechanics:

Players must not travel through walls in the maze

Players must find the sword in the maze

Players must defeat the dragon to win

Story: A dragon is chasing you. The dragon chases you into a nearby cave. The cave is a maze and there is only one exit/entrance; the one you were chased into. Find the sword in the maze to face the dragon.

Optional: find armor to better your chances of survival.

Aesthetics: Fully text-based.

Technology: Low-end. Maybe some company could take this idea and create a big project out of it.

I would implement two phases to this short game: Cave Phase and Fight Phase.

Cave Phase: I would implement the cave maze as a graph that the player must traverse with commands: Forward, Backward, Left, Right, Inspect, where the first four commands are traversal commands, and inspect is a command to find a sword at the current space in the maze. Once the sword has been found, the maze would generate armor at a random spot in the maze (and the player will not be notified) and the player may choose to continue exploring the maze, or return outside to face the dragon.

Fight Phase: It would be a turn-based fight, where the player gets the first turn. Player has 100 health points, dragon has 100 health points. The player gets these commands: Attack, Defend, Evade, Charge. Attack is a standard attack that does 10 damage if successful. Each attack has a 90% chance to hit. Defend will have the player defend against the dragon's next move, which will halve the damage dealt. Evade will severely increase your chances of surviving the dragon's next move. Charge will skip your turn in order to force an attack next turn that does 2.5 times normal damage. There is no running from the fight.

The dragon may randomly choose to attack or defend, each with equal chance. The dragon's attack does 20 damage but has a 50% chance to hit because the player is much smaller and much more nimble. If the player found armor in the maze, then all of the dragon's attacks' damage is halved. The dragon's defend reduces the player's damage by a factor of 3.