

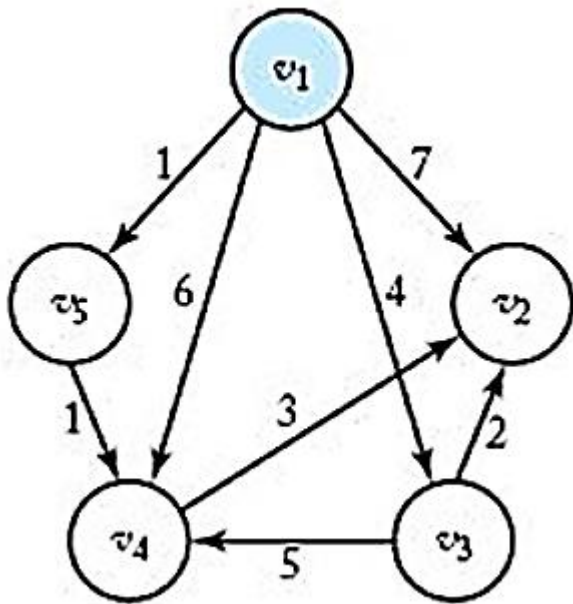
CS 324 Intro to Design of Algorithm

Practice 5 Fall 2017

Question 1 You are provided with a program that implements the Dijkstra's algorithm for the single-source shortest path problem. The `dijkstra` method returns a string representation of the final edge set. It also saves the predecessor of each vertex on the shortest path in the `touch` array. Write a method `printPath` to print the shortest paths (from v_1 to all other vertices) found by the `dijkstra` method, using the information saved in the `touch` array. You should assume that the vertex index starts at 1.

```
void printPath(int d, int[] touch)
// d is the index of the destination vertex
```

As an example, for the following graph:



your program should print:

```
v1 -> v5 -> v4 -> v2
```

```
v1 -> v3
```

```
v1 -> v5 -> v4
```

```
v1 -> v5
```