**Unit 3 Algorithmics**

**Submit Task – Week 6**

Prim’s Algorithm

Using the classes provided, construct Prim’s algorithm in Python. Include comments to serve as pseudocode. Note the set\_colour function has been included to allow you to set the colour to show your tree. Alternatively you can print a list of edges.

Template: <https://trinket.io/python3/70e28e0841>

Submit your PY file and a screenshot of your output.

Further Questions

1. How can a priority queue be used in Prim’s algorithm to improve efficiency?
2. Assuming all edge weights are positive, under what conditions will an edge with the smallest weight not appear in the resulting tree?
3. Explain why Prim’s algorithm is ‘greedy’.
4. Will Prim’s work with negative edges? Explain why/why not.