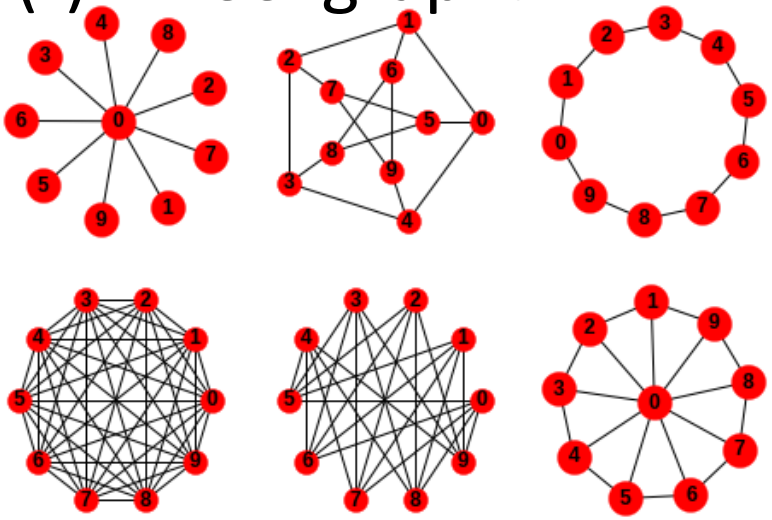
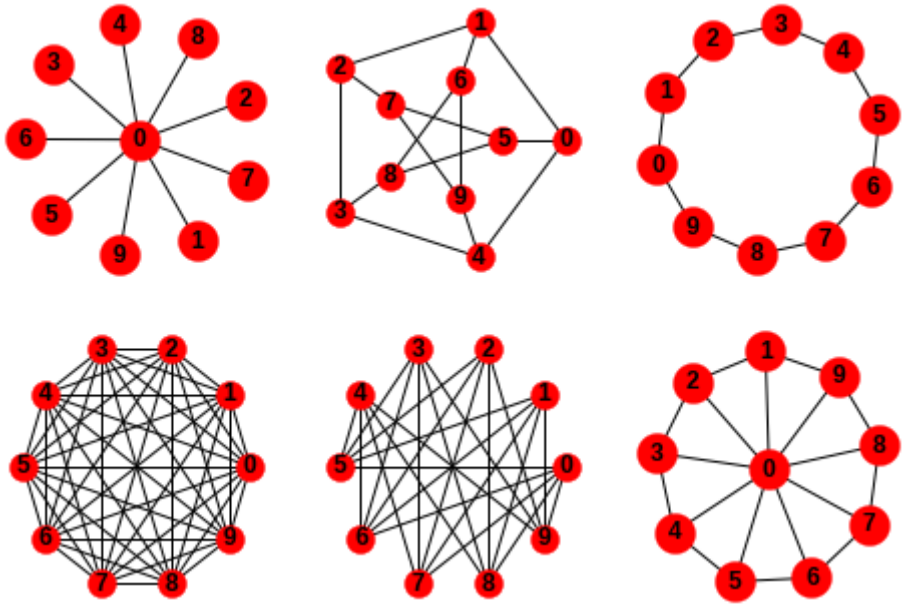
Quiz 6

Make a program of computing (i) transitivity and (ii) mean local clustering coefficient of (a) star graph, (b) Petersen graph, (c) circle graph, (d) complete graph, (e) complete bipartite graph, and (f) wheel graph.

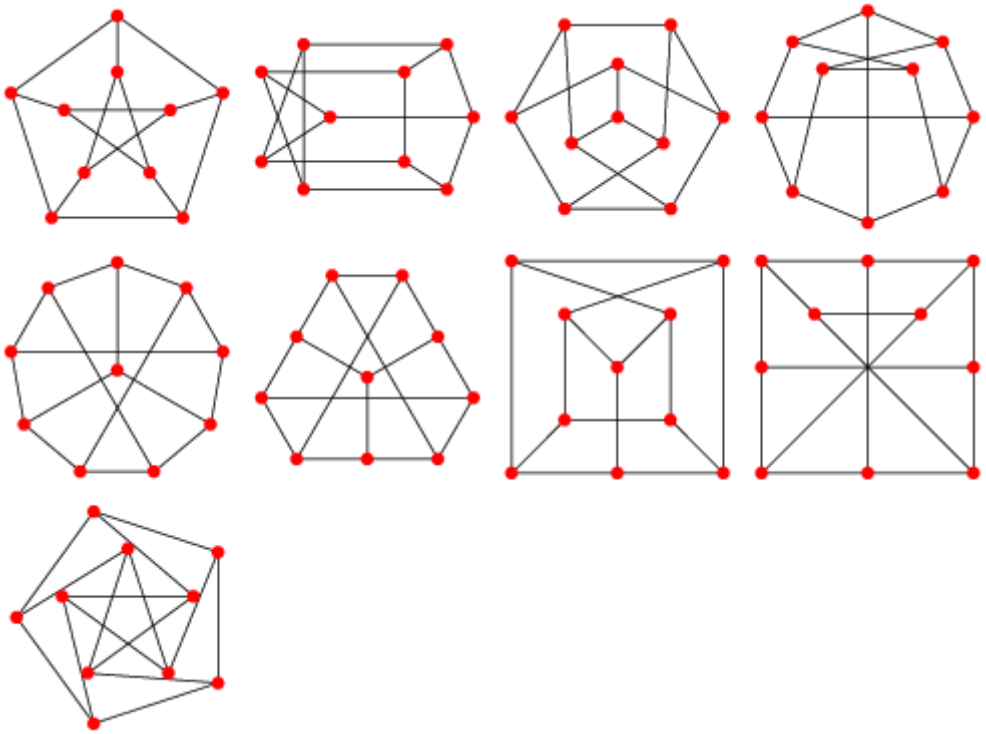


- Submit from Tokyo Tech OCW-i
- Deadline: ??:??(Japan Standard Time) on Dec. 23(Sun)
- Files should be MS Word, PDF or Jupyter notebook.

```
import networkx as nx
import matplotlib.pyplot as plt

star = nx.star_graph(9)
plt.subplot(231)
nx.draw(star, node_size=400, node_color='red', with_labels=True, font_weight='bold')

petersen = nx.petersen_graph()
plt.subplot(232)
nx.draw_shell(petersen, nlist=[range(5, 10), range(5)], node_size=200, node_color='red', with_labels=True, font_weight='bold')

cycle = nx.cycle_graph(10)
plt.subplot(233)
nx.draw_spring(cycle, node_size=400, node_color='red', with_labels=True, font_weight='bold')

K_10 = nx.complete_graph(10)
plt.subplot(234)
nx.draw_circular(K_10, node_size=200, node_color='red', with_labels=True, font_weight='bold')

K_5_5 = nx.complete_bipartite_graph(5, 5)
plt.subplot(235)
nx.draw_circular(K_5_5, nlist=[range(5, 10), range(5)], node_size=200, node_color='red', with_labels=True, font_weight='bold')

wheel = nx.wheel_graph(10)
plt.subplot(236)
nx.draw(wheel, node_size=400, node_color='red', with_labels=True, font_weight='bold')
```



Petersen graph



http://mathworld.wolfram.com/PetersenGraph.html