In [6]:

```
import networkx as nx
G = nx.Graph()
print G#prints nothing
for i in range(10):
    G.add_node(i)
print G.nodes()
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [9]:

```
G.add_edge(1, 2)
G.add_edge(1, 5)
G.add_edge(1, 9)
G.add_edge(5, 2)
G.add_edge(8, 2)
G.add_edge(4, 2)
print G.edges()
G.add_edge(8, 9)
G.add_edge(7, 6)
G.add_edge(2, 9)
```

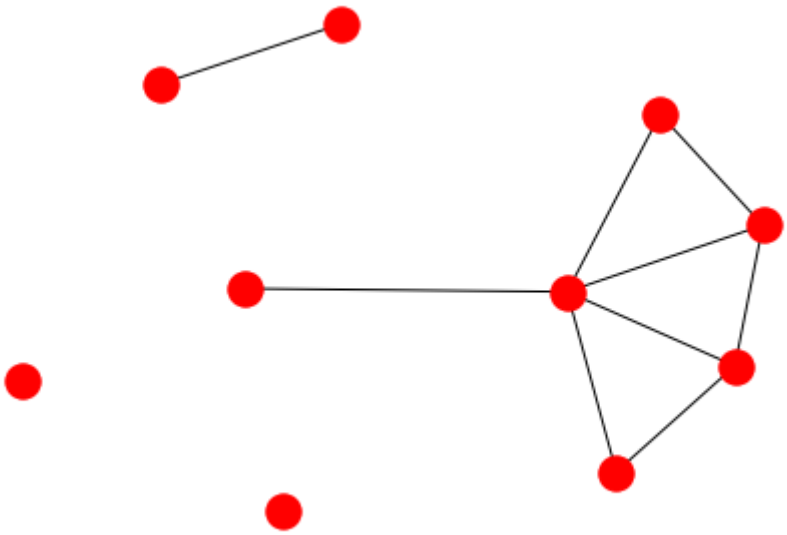
```
[(1, 9), (1, 2), (1, 5), (2, 8), (2, 4), (2, 5), (2, 9), (6, 7), (8,
 9)]
```

In [10]:

```
print G.nodes()
print G.edges()
import matplotlib.pyplot as plt
nx.draw(G)
plt.show()
```

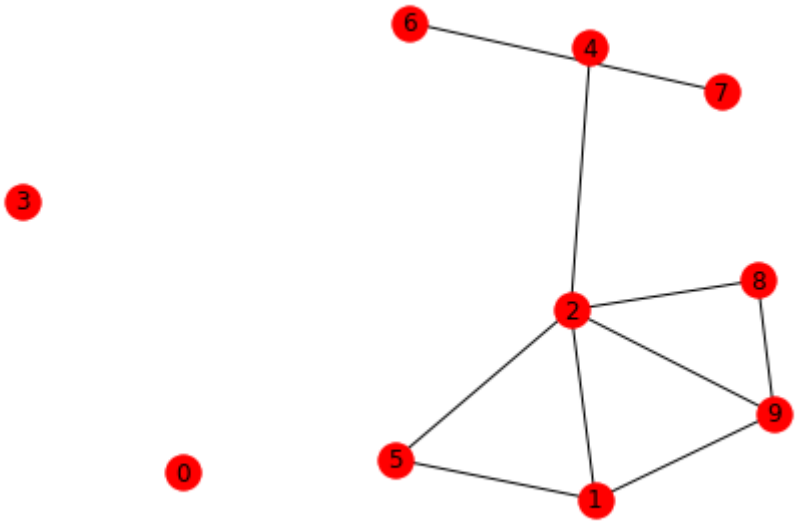
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
[(1, 9), (1, 2), (1, 5), (2, 8), (2, 4), (2, 5), (2, 9), (6, 7), (8,
 9)]

/home/gokul/anaconda2/lib/python2.7/site-packages/networkx/drawing/nx_
pylab.py:126: MatplotlibDeprecationWarning: pyplot.hold is deprecated.
    Future behavior will be consistent with the long-time default:
    plot commands add elements without first clearing the
    Axes and/or Figure.
  b = plt.ishold()
/home/gokul/anaconda2/lib/python2.7/site-packages/networkx/drawing/nx_
pylab.py:138: MatplotlibDeprecationWarning: pyplot.hold is deprecated.
    Future behavior will be consistent with the long-time default:
    plot commands add elements without first clearing the
    Axes and/or Figure.
  plt.hold(b)
/home/gokul/anaconda2/lib/python2.7/site-packages/matplotlib/__init__.
py:917: UserWarning: axes.hold is deprecated. Please remove it from yo
ur matplotlibrc and/or style files.
  warnings.warn(self.msg_depr_set % key)
/home/gokul/anaconda2/lib/python2.7/site-packages/matplotlib/rcsetup.p
y:152: UserWarning: axes.hold is deprecated, will be removed in 3.0
  warnings.warn("axes.hold is deprecated, will be removed in 3.0")
```



In [11]:

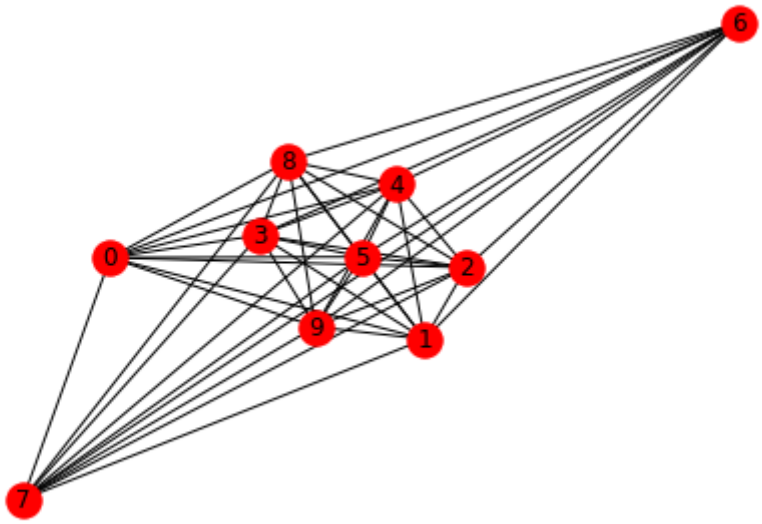
```
nx.draw(G, with_labels=1)
plt.show()
```



In [13]:

```
Z = nx.complete_graph(10)
print Z.nodes()
print Z.edges()
nx.draw(Z, with_labels=1)
plt.show()
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
[(0, 1), (0, 2), (0, 3), (0, 4), (0, 5), (0, 6), (0, 7), (0, 8), (0,
 9), (1, 2), (1, 3), (1, 4), (1, 5), (1, 6), (1, 7), (1, 8), (1, 9),
 (2, 3), (2, 4), (2, 5), (2, 6), (2, 7), (2, 8), (2, 9), (3, 4), (3,
 5), (3, 6), (3, 7), (3, 8), (3, 9), (4, 5), (4, 6), (4, 7), (4, 8),
 (4, 9), (5, 6), (5, 7), (5, 8), (5, 9), (6, 7), (6, 8), (6, 9), (7,
 8), (7, 9), (8, 9)]
```



In [14]:

```
H = nx.complete_graph(100)
print H.nodes()
print H.edges()
nx.draw(H, with_labels=1)
plt.show()
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 1
9, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 3
6, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 5
3, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 7
0, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 8
7, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99]
[(0, 1), (0, 2), (0, 3), (0, 4), (0, 5), (0, 6), (0, 7), (0, 8), (0,
9), (0, 10), (0, 11), (0, 12), (0, 13), (0, 14), (0, 15), (0, 16),
 (0, 17), (0, 18), (0, 19), (0, 20), (0, 21), (0, 22), (0, 23), (0,
 24), (0, 25), (0, 26), (0, 27), (0, 28), (0, 29), (0, 30), (0, 31),
(0, 32), (0, 33), (0, 34), (0, 35), (0, 36), (0, 37), (0, 38), (0, 3
9), (0, 40), (0, 41), (0, 42), (0, 43), (0, 44), (0, 45), (0, 46),
 (0, 47), (0, 48), (0, 49), (0, 50), (0, 51), (0, 52), (0, 53), (0,
 54), (0, 55), (0, 56), (0, 57), (0, 58), (0, 59), (0, 60), (0, 61),
(0, 62), (0, 63), (0, 64), (0, 65), (0, 66), (0, 67), (0, 68), (0, 6
9), (0, 70), (0, 71), (0, 72), (0, 73), (0, 74), (0, 75), (0, 76),
 (0, 77), (0, 78), (0, 79), (0, 80), (0, 81), (0, 82), (0, 83), (0,
 84), (0, 85), (0, 86), (0, 87), (0, 88), (0, 89), (0, 90), (0, 91),
(0, 92), (0, 93), (0, 94), (0, 95), (0, 96), (0, 97), (0, 98), (0, 9
```

In [15]:

```
G = nx.gnm_random_graph(20, 0.5)#20 vertices and edge with prob 0.5
nx.draw(G, with_labels=1)
plt.show()
```