This assignment is to build a Bayes Network library. User can create the Bayes Network and input conditional probability of each variable by using provided functions.

User need to import two libraries:
One is python numpy library, the other one is graph.

Set a Bayes Network by calling BayesNetwork

- **AddNode**: add variables of the network
- **addChild**: add node and its parent(s)
- **addConditionalProb**: user can input conditional probability table and set corresponding status of each node(variable)
- **jointProb**: call jointProb function to compute joint probability of each node
- **setEvidence**: change evidence in order to update Bayes Network.

Following is an example of using the Bayes Network Library.
Two variables: Smoking, Cancer
Cancer is child of Smoking in the network.

```
#%%Run test
g = BayesNetwork( );
g.addNode('Smoking');
g.addChild('Smoking', 'Cancer');

g.addConditionalProb('Smoking', np.array( [ 0.8, 0.15, 0.05 ]),
                      ['None', 'Light', 'Heavy']);
g.addConditionalProb('Cancer', np.array([[0.96, 0.88, 0.60],
                                         [0.03, 0.08, 0.25],
                                         [0.01, 0.04, 0.15]]),
                      ['None', 'Benign', 'Malignant'], ['Smoking']);
prob = g.jointProb( );

g.setEvidence([('Smoking', 'Light')]);
```