



(A)

Vertices: 10      Max distance between any 2  
Edges: 13      people is 4 edges

$G = \{\}$

(B)

$G['Chao'] = ['Anna', 'Latoya', 'Deepak']$

$G['Anna'] = ['Chao', 'Latoya']$

$G['Latoya'] = ['Anna', 'Chao']$

$G['Deepak'] = ['Chao', 'Emma', 'Aisha', 'Greg']$

$G['Emma'] = ['Deepak', 'Isaac', 'Aisha']$

$G['Aisha'] = ['Deepak', 'Isaac', 'Emma']$

$G['Isaac'] = ['Aisha', 'Emma']$

$G['Greg'] = ['Deepak', 'Juan', 'Hannah']$

$G['Juan'] = ['Hannah', 'Greg']$

$G['Hannah'] = ['Juan', 'Greg']$

When modeling computer networks, diameter represents how long it will take to send TCP/IP packets from point A to point B. (C)

When using a graph to model social networks, diameter represents the degree of separation between two potential friends (i.e., Bob might be a friend of Suzy's friend's friend).

```

def search(nodes, counter=0) # nodes is list
    move-on = False
    for vert in nodes:
        for nextvert in G[vert]:
            if nextvert not in nodes:
                nodes += [nextvert]
                move-on = True
    if move-on:
        counter += 1
        return search(nodes, counter)
    else:
        return counter

```

(D)