

Answers:

1)

0	10	0	0	15	5
10	0	10	30	0	0
0	10	0	12	5	0
0	30	12	0	0	20
15	0	5	0	0	0
5	0	0	20	0	0

2) (Implemented)

3)

```
-----  
source city is city 0  
city          Distance from Source city  
0              0  
1              10  
2              20  
3              25  
4              15  
5              5  
-----
```

```
-----  
source city is city 1  
city          Distance from Source city  
0              10  
1              0  
2              10  
3              22  
4              15  
5              15  
-----
```

```
-----  
source city is city 2  
city          Distance from Source city  
0              20  
1              10  
2              0  
3              12  
4              5  
5              25  
-----
```

```
-----  
source city is city 3  
city          Distance from Source city  
0              25  
1              22  
2              12  
3              0  
4              17  
5              20  
-----
```

```
-----  
source city is city 4  
city          Distance from Source city  
0              15  
1              15  
2              5  
3             17  
4              0  
5             20  
-----
```

```
-----  
source city is city 5  
city          Distance from Source city  
0              5  
1             15  
2             25  
3             20  
4             20  
5              0  
-----
```

4)

```
-----
source city is city 0
city          Distance from Source city
0             0
1             10
2             20
3             25
4             15
5             5
-----
average time taken form source city to a city =12.5
-----

source city is city 1
city          Distance from Source city
0             10
1             0
2             10
3             22
4             15
5             15
-----
average time taken form source city to a city =12
-----

source city is city 2
city          Distance from Source city
0             20
1             10
2             0
3             12
4             5
5             25
-----
average time taken form source city to a city =12
-----
```

```

-----
source city is city 3
city          Distance from Source city
0              25
1              22
2              12
3              0
4              17
5              20

-----
average time taken form source city to a city =16
-----

source city is city 4
city          Distance from Source city
0              15
1              15
2              5
3              17
4              0
5              20

-----
average time taken form source city to a city =12
-----

source city is city 5
city          Distance from Source city
0              5
1              15
2              25
3              20
4              20
5              0

-----
average time taken form source city to a city =14.1667
-----
overall minimum average time taken = 12
best city/cities to build hospital :
city 1
city 2
city 4

```

Therefore best city to build hospital is city 1,city 2 and city 4.