You are a passenger on a train journey from delhi to chennai, you may opt for any out of the two (direct trains or connecting trains) the connecting stations being nagpur, pune, vizag and hyedrabad.

Your goal is to

1. opt for the journey that is the least expensive, I.e. specify the route eg : Delhi>Nagpur>Hyedrabad>Chennai.
2. Arrange all the possible routes with costs in non decreasing order.

Eg:

Delhi Chennai 40

Delhi pune Chennai 60

Delhi nagpur Chennai 80

Delhi pune vizag Chennai 80

Delhi vizag Chennai 120

Delhi nagpur vizag pune Chennai 140

(C) in case if the cost for routes is same go for the lexicograhic order.

Eg;

Delhi nagpur Chennai 80

Delhi pune vizag Chennai 80

(D } In case if none of the given routes reach the destination print “ not reachable ”

**Input format:**

5 //no of routes as input

delhi pune 160

nagpur chennai 80

delhi hyedrabad 100

pune nagpur 90

vizag chennai 120

Space separated string values

“<Boarding station><space><Destination station><space><cost>”

**Output format:**

Your output must be either of the following

Delhi Chennai 40

Delhi pune Chennai 60

Delhi nagpur Chennai 80

Delhi pune vizag Chennai 80

Delhi vizag Chennai 120

Delhi nagpur vizag pune Chennai 140

Or

Not reachable

Or

Delhi nagpur Chennai 80

Delhi pune vizag Chennai 80

Test cases

.……….……………………………………………...……………………………………………..……………………………………..

6

Pune Chennai 190

Delhi Hyderabad 55

Nagpur Pune 70

Delhi Nagpur 50

Pune Nagpur 85

Hyderabad Nagpur 80

.……….……………………………………………...……………………………………………..……………………………………..

6

Hyderabad Delhi 55

Delhi Nagpur 73

Hyderabad Nagpur 88

Vizag pune 89

Hyderabad Chennai 44

Nagpur Vizag 54

.……….……………………………………………...……………………………………………..……………………………………..

6

delhi nagpur 70

nagpur chennai 30

vizag chennai 30

delhi vizag 70

delhi hyedrabad 70

hyedrabad chennai 30

.……….……………………………………………...……………………………………………..……………………………………..

6

delhi nagpur 66

Pune nagpur 66

Chennai Pune 66

vizag chennai 39

delhi vizag 40

nagpur chennai 70

.……….……………………………………………...……………………………………………..……………………………………..

7

Vizag nagpur 50

Nagpur pune 44

hyedrabad nagpur 72

delhi vizag 76

hyedrabad chennai 44

Pune vizag 60

Nagpur hyedrabad 92