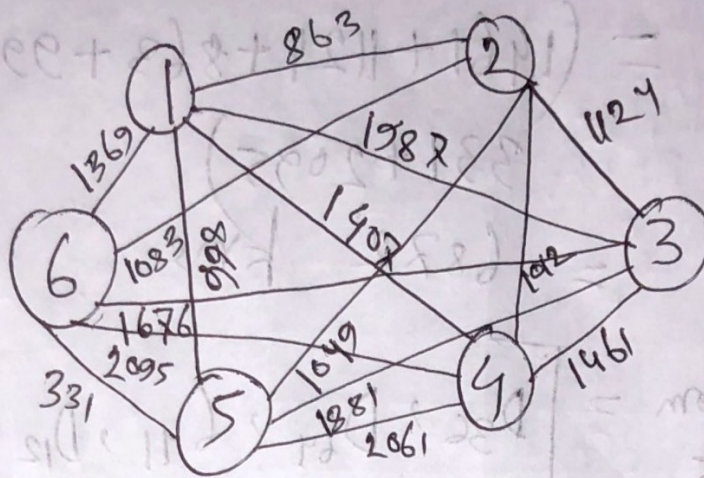


# Distance / cost matrix for TSP



|   | 1    | 2    | 3    | 4    | 5    | 6    |
|---|------|------|------|------|------|------|
| 1 | 0    | 863  | 1987 | 1407 | 998  | 1369 |
| 2 | 863  | 0    | 1124 | 1012 | 1049 | 1083 |
| 3 | 1987 | 1124 | 0    | 1461 | 1881 | 1676 |
| 4 | 1407 | 1012 | 1461 | 0    | 2061 | 2095 |
| 5 | 998  | 1049 | 1881 | 2061 | 0    | 331  |
| 6 | 1369 | 1083 | 1676 | 2095 | 331  | 0    |

[TSP sol. list or randomly]  $(\mu_i)$

fitness

for chromo some =  $[D_{41}, D_{13}, D_{32}, D_{25}, D_{56}, D_{64}]$

$[4 \ 1 \ 3 \ 2 \ 5 \ 6]$

$= (1407 + 1987 + 1124 + 1049 + 331 + 2095)$

$\therefore D_{41}$  means 4 to column, 1 to row

fitness = 7993 kms



for chromosome =  $[D_{43}, D_{32}, D_{21}, D_{15}, D_{56}, D_{64}]$   
 4 3 2 1 5 6

$$= (1461 + 1124 + 863 + 998 + 331 + 2095)$$

fitness = 6872 kms

for chromosome =  $[D_{36}, D_{64}, D_{41}, D_{12}, D_{25}, D_{52}]$   
 3 6 4 1 2 5

fitness = 8971 kms

for chromosome =  $[D_{63}, D_{34}, D_{45}, D_{52}, D_{21}, D_{15}]$   
 6 3 4 5 2 1

fitness = 8479

for chromosome =  $[D_{52}, D_{26}, D_{64}, D_{43}, D_{31}, D_{15}]$   
 5 2 6 4 3 1

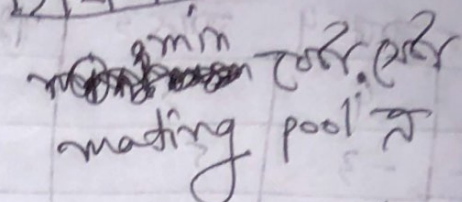
fitness = 8673

for chromosome =  $[D_{26}, D_{63}, D_{34}, D_{45}, D_{51}, D_{15}]$   
 2 6 3 4 5 1

fitness = 8142



Feb 7



100% zur right side  
2 4 digit - 12345



## Edge Table

Parent 1

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 4 | 1 | 3 | 2 | 5 | 6 |
|---|---|---|---|---|---|

Parent

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 5 | 6 |
|---|---|---|---|---|---|

| 1 | 2  | 3  | 4  | 5 |
|---|----|----|----|---|
| 1 | 9  | 3  | 2  | 5 |
| 2 | -3 | 5  | 1  |   |
| 3 | 1  | -2 | 4  |   |
| 4 | -6 | 1  | 3  |   |
| 5 | 1  | 2  | -6 |   |
| 6 | -5 | -4 |    |   |

[Parent 1, Parent 2 or -1 or  
or costur tabe n finish

Step-1

|   |    |    |    |   |
|---|----|----|----|---|
| 1 | 4  | 3  | 2  | 5 |
| 2 | -3 | 5  | 1  |   |
| 3 | 1  | -2 | 4  |   |
| 4 | -6 | 1  | 3  |   |
| 5 | 1  | 2  | -6 |   |
| 6 | -5 | -4 |    |   |

Randomly 4 तिरकारी प्रणाली  
table तिरकारी प्रणाली 4 प्रणाली  
निर new table make  
कराव।

|   |  |
|---|--|
| 4 |  |
|---|--|

↓  
[4 row સિલેબ આપ્યું છે અને next  
table ને 4 સિલેબ આપ્યું છે]



## Step-2

|   |    |    |    |
|---|----|----|----|
| 1 | 3  | 2  | 5  |
| 2 | -3 | 5  | 1  |
| 3 | 1  | -2 |    |
| 4 | -6 | 1  | 3  |
| 5 | 1  | 2  | -6 |
| 6 | -5 |    |    |

|   |   |   |   |   |
|---|---|---|---|---|
| 2 | 2 | 5 | 1 | 1 |
|---|---|---|---|---|

|   |   |   |   |   |
|---|---|---|---|---|
| 2 | 1 | 5 | 2 | 1 |
|---|---|---|---|---|

|   |   |
|---|---|
| 4 | 6 |
|---|---|

table 2x4 ko 6 row karte,  
6 row to 5 aake, jake  
next table n 6 row karte,  
5 karte.

## Step-3

|   |    |    |   |
|---|----|----|---|
| 1 | 3  | 2  | 5 |
| 2 | -3 | 5  | 1 |
| 3 | 1  | -2 |   |
| 4 | 1  | 3  |   |
| 5 | 1  | 2  |   |
| 6 | -5 |    |   |

5 row to  
1 karte jake  
next time  
1 karte

|   |   |   |
|---|---|---|
| 4 | 6 | 5 |
|---|---|---|

jo 6 row karte, next table  
fagure step-3 table

## Step-5

|   |    |   |
|---|----|---|
| 1 | 3  | 2 |
| 2 | -3 |   |
| 3 | -2 |   |
| 4 | 3  |   |
| 5 | 2  |   |
| 6 |    |   |

jo 1 row  
karte,  
1 to row to  
3 karte,  
jake 3 karte.

|   |   |   |   |   |
|---|---|---|---|---|
| 4 | 6 | 5 | 1 | 3 |
|---|---|---|---|---|

## Step-4

|   |    |    |
|---|----|----|
| 1 | 3  | 2  |
| 2 | -3 | 1  |
| 3 | 1  | -2 |
| 4 | 1  | 3  |
| 5 | 1  | 2  |
| 6 |    |    |

|   |   |   |   |
|---|---|---|---|
| 4 | 6 | 5 | 1 |
|---|---|---|---|

5 row to 5 karte,  
jake 1 karte

## Step-6

|   |    |
|---|----|
| 1 | 2  |
| 2 |    |
| 3 | -2 |
| 4 |    |
| 5 | 2  |
| 6 |    |

jo 3 row karte  
next table.

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 4 | 6 | 5 | 1 | 3 | 2 |
|---|---|---|---|---|---|



# Mutation

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 4 | 1 | 3 | 2 | 5 | 6 |
|---|---|---|---|---|---|

25%

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 4 | 5 | 3 | 2 | 1 | 6 |
|---|---|---|---|---|---|

25% exchange

ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

~~ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।~~

ਜਿਸ ਵਿੱਚ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |

ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |

2-9-2

ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

ਕਰਕੇ ਹਰ 1 ਸਥਿਤਿ ਹਰ ਨਿਰਧਾਰਤ।

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 |