

Design and Analysis of Algorithms

Banana problem

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Sample Test case -

Sample Input 1: 3

0 10 15

10 0 20

15 20 0

Sample Output 1:

Minimum Cost: 45

Optimal Path: 0 1 2 0

```
PS C:\Users\keert\Onedrive\Desktop> ./a.exe
3
0 10 15
10 0 20
15 20 0
Minimum Cost: 45
Optimal Path: 0 1 2 0
```

Sample Input 2: 4

0 5 9 10

5 0 6 4

9 6 0 8

10 4 8 0

Sample Output 2:

Minimum Cost: 26

Optimal Path: 0 1 3 2 0

```
PS C:\Users\keert\Onedrive\Desktop> ./a.exe
4
0 5 9 10
5 0 6 4
9 6 0 8
10 4 8 0
Minimum Cost: 26
Optimal Path: 0 1 3 2 0
PS C:\Users\keert\Onedrive\Desktop>
```

Hidden Test Cases -

Sample Input 3: 4

0 -1 -1 4

-1 0 3 -1

-1 3 0 2

4 -1 2 0

Sample Output 3: Path does not exist

```
PS C:\Users\keert\Onedrive\Desktop> ./a.exe
4
0 -1 -1 4
-1 0 3 -1
-1 3 0 2
4 -1 2 0
Path does not exist
PS C:\Users\keert\Onedrive\Desktop>
```

Sample Input 4:4

0 1 15 6

2 0 7 3

9 6 0 12

10 4 8 0

Sample Output 4:

Minimum Cost: 21

Optimal Path: 0 1 3 2 0

```
PS C:\Users\keert\Onedrive\Desktop> ./a.exe
4
0 1 15 6
2 0 7 3
9 6 0 12
10 4 8 0
Minimum Cost: 21
Optimal Path: 0 1 3 2 0
PS C:\Users\keert\Onedrive\Desktop>
```

Sample Input 5: 5

0 3 4 2 7

3 0 4 6 3

4 4 0 5 8

2 6 5 0 6

7 3 8 6 0

Sample Output 5:

Minimum Cost: 19

Optimal Path: 0 2 1 4 3 0

```
PS C:\Users\keert\Onedrive\Desktop> ./a.exe
```

```
5
```

```
0 3 4 2 7
```

```
3 0 4 6 3
```

```
4 4 0 5 8
```

```
2 6 5 0 6
```

```
7 3 8 6 0
```

```
Minimum Cost: 19
```

```
Optimal Path: 0 2 1 4 3 0
```

```
PS C:\Users\keert\Onedrive\Desktop> 
```