

# Analysis of algorithm

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(QNo 1)

Solution:

Riphah 1-14- to Home

Step:

Read (start location, Destination)

Current Location = start location.

Step 2: (exit uni, & go to Golara more)

Move Riphah to GM

(Distance covered  $\approx 2$  km)

Distance covered 2 km

Current Loc Golara more

Step 3: (go west side toward Tarnot)

go street  $\approx 10$  km.

Distance covered = 2 km + 10 km

current location is = Tarnot

Total distance  $\approx 12$  km

Step 4: Take U-Turn Tarnot  $\approx$  Dist is 1 km

after reaching Tarnot

go ~~street~~ toward U-Turn  $\approx 1$  km.

Step 5

distance covered  $\approx 1$  km

Total distance covered

$\approx 13$  km.

current location is = Tarnot U-Turn



Navigation to airport

Step 5: (taking U-turn go 500m straight  
go toward Jald road  
go straight 500m.

distance covered = Total + 500m

Total distance  $\approx 13.5$  km

current location is = Jald road

Step 6: (Move Jald road to Kashine chok)

Toward Kashine chok

go straight  $\approx 4$  km

distance covered = Total + 4 km

Total distance covered  $\approx 17.5$  km

current location is = Kashine chok

Step 7: (Kashine chok to HOME)

go ~~taking~~ go left side road

$\approx 100$  m reach Home

distance covered = Total + 100m

Total distance = 17.6 km

current location = Home

Step 8:

Show ("I'm reached Home").

Show ("Total distance")

$\searrow$  17.6 km.

Step 9: (Finish)

Exit,



## Fact of Algorithm:

### a. Variable:

Start location  
Destination  
Current Location  
Distance covered

### b. Input Statement:

read (Start Location, Destination)

### c. Calculation:

Total Distance = Distance Covered + 2 km

Total Distance = Distance Covered + 10 km

Total Distance = Distance Covered + 10 km

Total Distance = Distance Covered + <sup>500 m</sup> 5 km

Total Distance = Distance Covered + ~~5 km~~ 4 km

Total Distance = Distance Covered + 100 m

### d. Output Statement:

Show ("I'm reached Home")

Show ("Total distance")

CurrentLoc = StartLoc

1 = Golara more

1 = Tarnol

1 = Tarnol U-turn

1 = Jodha road

1 = Kashmiri chock

CurrentLoc = Home.



(Q no 2)

Algorithm: Square Root(n)

Step 1: Start: (Read Input)  
Read  $n$

Set  $u = n/2$  (initial guess)

Step 2 (Iterate):

$$u = (u + n/u) / 2$$

Step 3 (output

write ("Square Root of  $n$  is  $u$ ")

Step 4: Finish

Exit,



## Q No 3

### Algorithm:

#### Step 1:

Read (list 1, list 2, m, n)

Set  $i=1$ ,  $j=1$

Create list Result.

#### Step 2: (compare elements)

Repeat while  $i \leq m$  and  $j \leq n$

→ if  $\text{list1}[i] == \text{list2}[j]$  then

- Append  $\text{list1}[i]$  to Result.

- $i = i + 1$ ,  $j = j + 1$

→ Else if  $\text{list1}[i] < \text{list2}[j]$  then

- $i = i + 1$

→ Else

- $j = j + 1$

#### Step 3: (out put)

write ("common element are: Result")

#### Step 4 (Finish)

Exit.

## Facts of Algorithm.

### a. Variable

list 1 [m], list 2 [n] : add, max, A

i, j (indices)

Result [ ]

### b. Input

Read (list 1, list 2, m, n)

### c. Calculation

Compare element from b/s

Append common element

Increment etc.

### d. Output

write "Result"

### e. Assignments.

i = 1, j = 1

Result = [ ]

i = i + 1 or j = j + 1.