**1. Bear Problem :**

Step 1 : The bear walks one mile south.

Step 2 : The bear then walks one mile east.

Step 3 : The bear finally walks one mile north and returns to the starting point.

Step 4 : The only place on Earth where this can happen is the North Pole.

Step 5 : Since polar bears are found in the Arctic region, the bear must be white.

**2. Two towns A and B are 3 km s apart It is proposed to build**

**a new school serving 100 students in town A and 50 students**

**in town B. How far from town A should the school be built**

**if the total travel distance by all 150 students is to be as small as**

**possible?**

Distance between towns A and B: 3 km.

Number of students in town A: 100.

Number of students in town B: 50.

Let the school be built x km from town A ( it is (3 - x) km from town B).

The total travel distance is given by:

D=100x+50(3−x)

Solve X to obtian D:

x= (100+50)/(50×3) = 150/150 = 1

The school should be built 1 km from town A.

Step 1 :START

Step 2 :Evaluate the students in Town A and Town B and distance between 2 towns

Step 3 :Calculate the total number of students

Step 4 :Let the distance od school from town A be x kms and Town B be (3-x)kms

Step 5 :Calculate total distance to derive at D=100x+50(3−x)

Step 6 :Total distance is minimum when x is at 1

Step 7 :Print Output as School should be built 1km from town A.

Step 8 :STOP

**4. Rearrange the letters in the words new door to make one word**

Step 1 :START

Step 2 :calculate the number of letters and analyse the number of combinations

Step 3 :Make a list of letters and its occurence

Step 4 :put each letter in different blocks

Step 5 :Sort it in such a way with each combinations

Step 6 :Repeat the iteration until the required result is obtained

Step 7 :STOP

**5. do divide and conquer 6 5 1 4 3 2**

6 5 1 4 3 2

6 1 5 4 2 3

1 5 6 2 3 4

1 2 3 4 5 6

Step 1 :START

Step 2 :Count the total number of elements and divide it by half-(6/2)

Step 3 :Divide the array into 2 halves 6 5 1 4 3 2

Step 4 :Divide it again until we get unti elements 6 5 1 4 3 2

Step 5 :Sort it 6 1 5 4 2 3

Step 6 :Sort it again and merge it 1 5 6 2 3 4

Step 7 :Final sort and merge it on the whole 1 2 3 4 5 6

Step 8 :STOP

**6. Draw flowchart for calculating simple interest**

