

# Algorithm for Semivariance Analysis

ICM3102 2  
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In E-W direction

start

Declare a 2-D vector with given values.

Declare a variable  $h$ .

Read the value of  $h$ .

$$h = h/100$$

Find the size of the 2D vector

$n$  = number of rows

$m$  = number of columns

declare a variable  $x$  and  $k$  for number of pairs and declare

for range 0 to  $n \rightarrow i$

{ for range 0 to  $m \rightarrow j$

{ Declare a variable  $b$

$$b = j + h$$

if ( $b < m$  &&  $A[i][j] \neq -1$  &&  $A[i][b] \neq -1$ )

{  $x += (A[i][b] - A[i][j]) (A[i][b] - A[i][j])$

$k += 1$

Go to step B

Go to step 7

Declare a float variable  $y$

$$y = \frac{x}{2 \times 100 \times k};$$

14. Display (out) of as float output  
15. stop.

Algorithm for same -

8] N-S direction.

1. start.
2. Declare a 2D-vector with provided values.
3. Declare a variable  $h$ .
4. Read the value of  $h$ .
5.  $h = \frac{h}{100}$
6. Declare a variable  $n = \text{number of rows}$   
 $m = \text{number of columns}$   
 $k = \text{number of } p$
7. for range 0 to  $m \rightarrow i$   
{
8. for Range 0 to  $n \rightarrow j$   
{
9. Declare a variable  $b$   
 $b = j + h$
10. if ( $b < n$  &  $A[j][i] = 1$  &  $A[b][i] = 1$ )  
{  
     $x += (A[b][i] - A[j][i]) * (A[b][i] - A[j][i])$   
     $k += 1$   
}
11. } go to step 8.
12. } go to step 7.

13. declare a float variable  $y$

$$y = \frac{x}{2 \times 10^8 \times k}$$

4. displace (int)  $y$  as final output

stop

in  $45^\circ$  inclined to horizontal direction  
start

declare a 2D-vector with given values

declare a variable  $h$

read the values of  $h$

$$h = h/100$$

declare variables

$n$  = number of rows

$m$  = number of columns

$x$  and  $k$  per number of pairs

for Range 0 to  $n \rightarrow i$

for range 0 to  $m \rightarrow j$

declare variable  $b = i + h$

declare variable  $c = j + h$

if ( $b < n$  &  $c < n$  &  $A[i][0] \neq -1$  &  $A[b][0]$

$$\{ x = (A[b][c] - A[i][0]) \oplus A[b][c - A[i][0]]$$

$k = 1$

go to step 8

go to step 7

declare a variable  $y$  of float datatype  $y = \frac{x}{2 \times 10^8 \times k}$

15 display ret(4) as final output

16 stop