CS 6363: Advanced Compiler Construction

Jan 20, 2010

You Name:

1. Given the following loop nest,

```
do J = 3, N-1, 1
S1:  RX(J,J) = RX(J,J) * 2
  do I = 2, N-1, 1
S2:     RX(I,J) = (RX(I,J-1) + RX(I-1,J)) / 2
  enddo
enddo
```

   (a) What are the systems of dependence testing equations between two different iteration vectors of statement S2? Solve the equations. What are the resulting distance/direction vectors?

   (b) What are the dependence testing equations between statements S1 and S2? Solve the equations. What are the resulting distance/direction vectors?