AP® COMPUTER SCIENCE A
2015 SCORING GUIDELINES

Question 3: Sparse Array

Part (a)	getValueAt	3 points

Intent: *Return the value at row index* row *and column index* col *in sparse array*

    +1   Accesses all necessary elements of entries (*No bounds errors*)

    +1   Identifies element of entries at row index row and column index col, if exists

    +1   Returns identified value or returns 0 if no entry exists in entries with row index row and column index col

Part (b)	removeColumn	6 points

Intent: *Remove column* col *from sparse array*

    +1   Decrements numCols exactly once

    +1   Accesses all elements of entries (*No bounds errors*)

    +1   Identifies and removes entry with column index col

    +2   Process entries with column index > col within loop

        +1   Creates new SparseArrayEntry with current row index, column index -1, current value

        +1   Identifies and replaces entry with column index > col with created entry

    +1   On exit: All and only entries with column index col have been removed and all and only entries with column index > col have been changed to have column index -1.
All other entries are unchanged. (*Minor loop errors ok*)

Question-Specific Penalties	

    -2   (t) Consistently uses incorrect name instead of entries

    -1   (u) Directly accesses private instance variables in SparseArrayEntry object