1. \(a = \begin{bmatrix} [1, 2, 3], [4, 5] \end{bmatrix}\)
   \(b = a[:]\)

   After executing
   \(b.append(8)\)

   what is the list referred to by \(a\)?
   
   A. \([1, 2, 3], [4, 5]\) (unchanged)
   B. \([1, 2, 3], [4, 5], 8\)
   C. \([1, 2, 3], [4, 5, 8]\)
   D. \([1, 2, 3], [4, 5], [8]\)
   E. I don't know.

2. \(a = \begin{bmatrix} [1, 2, 3], [4, 5] \end{bmatrix}\)
   \(b = a[:]\)

   After executing
   \(b.append(8)\)

   what is the list referred to by \(a\)?
   
   A. \([1, 2, 3], [4, 5]\) (unchanged)
   B. \([1, 2, 3], [4, 5], 8\)
   C. \([1, 2, 3], [4, 5, 8]\)
   D. \([1, 2, 3], [4, 5], [8]\)
   E. I don't know.

3. \(a = \begin{bmatrix} [1, 2, 3], [4, 5] \end{bmatrix}\)
   \(b = a[:]\)

   After executing
   \(b[1].append(8)\)

   what is the list referred to by \(a\)?
   
   A. \([1, 2, 3], [4, 5]\) (unchanged)
   B. \([1, 2, 3], [4, 5], 8\)
   C. \([1, 2, 3], [4, 5, 8]\)
   D. \([1, 2, 3], [4, 5], [8]\)
   E. I don't know.

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The slice creates a "deepish" copy \(a\), so that \(a\) and \(b\) are no longer aliases. Thus appending to \(b\) does not change \(a\).

Slicing does not copy any nested lists and so modifying the nested list \(a[1]\), is visible via \(a\) and \(b\). Thus: \([1, 2, 3], [4, 5, 8]\).
4. \[a = [[1, 2, 3], [4, 5]]\]
   \[b = a[:]\]

   After executing
   \[b[1].append(8)\]
   what is the list referred to by \(a\)?

   A  \([[1, 2, 3], [4, 5]]\) (unchanged)
   B  \([[1, 2, 3], [4, 5], 8]\)
   C  \([[1, 2, 3], [4, 5, 8]]\)
   D  \([[1, 2, 3], [4, 5], [8]]\)
   E  I don't know.