1. Changing variable values

(a) Consider this code:

\[ k = 5 \]

Write an assignment statement that creates a new variable \( j \) that refers to three times \( k \)'s value:

\[ j = 3 \times k \]

(b) Consider this code:

\[ \begin{align*}
  x &= 4 \\
  y &= 5 \\
  x &= 2 \\
\end{align*} \]

After the code above is executed, to which value does \( x \) refer? 2 (no ref. to 4)

After the code above is executed, to which value does \( y \) refer? 5

(c) Consider this code:

\[ \begin{align*}
  x &= 4 \\
  y &= x + 2 \\
  x &= y + 1 \\
\end{align*} \]

After the code above is executed, to which value does \( x \) refer? 7

After the code above is executed, to which value does \( y \) refer? 6

2. Swapping variable values An extra exercise to try at home.

Assume that variables \( a \) and \( b \) have been assigned \texttt{int} values. Write code to swap which values \( a \) and \( b \) refer to: after your statements are executed, \( a \) should refer to the value that \( b \) used to refer to, and \( b \) should refer to the value that \( a \) used to refer to. Hint: use a third variable.

Once you have written the code, trace your code using the memory model to confirm that it correctly swaps the values: