Math 408 — LP Modeling  
Solution to the Bankruptcy Problem

The Decision Variables  
AE= Transfer from Albert to Edward  
AC= Transfer from Albert to Charles  
BA= Transfer from Bill to Albert  
CB= Transfer from Charles to Bill  
CD= Transfer from Charles to David  
DA= Transfer from David to Albert  
EC= Transfer from Edward to Charles  
ED= Transfer from Edward to David

The Objective Function  
\[ \text{max } BA \]

The Constraints  
Albert Transfers: \[ BA+DA=AC+AE \]  
Bill Transfers: \[ BA=CB \]  
Charles Transfers: \[ AC+EC=CB+CD \]  
David Transfers: \[ CD+ED=DA \]  
Edward Transfers: \[ AE=EC+ED \]

Bounds  
\[ 0 \leq BA \leq 5 \]  
\[ 0 \leq AC \leq 3 \]  
\[ 0 \leq AE \leq 10 \]  
\[ 0 \leq CB \leq 6 \]  
\[ 0 \leq CD \leq 4 \]  
\[ 0 \leq DA \leq 4 \]  
\[ 0 \leq EC \leq 7 \]  
\[ 0 \leq ED \leq 3 \]