MAD 3104 DM1 **Quiz 2X** 13 Sep 1995 __Name:_____

Show **ALL** work for credit; be neat; and use only **ONE** side of each page of paper.
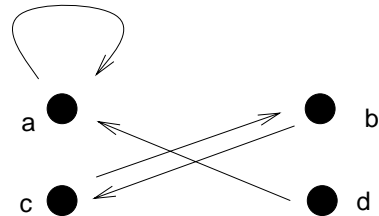
1. Odds and ends

  A. Draw a Venn diagram showing $\bar{A} \cap B$

  B. Simplify $\overline{(A \cup \bar{B})}$

C & D. Draw the di-graph of the relation R given by $aRb \iff 0 \le a - b \le 2$ on the set $A = \{2, 3, 4, 5, 6\}$.

2. Give counterexamples to the statements below. The relation R is the one given by the digraph to the right.

  A. R is reflexive.

  B. R is symmetric.

  C. R is anti-symmetric.

  D. R is transitive.