MAD 3105 DM1 **Quiz 2s** 19 Jan 1996 **Name:** _____

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

1. Here is a state table with ouput. Draw the transition diagram and list the output for the input sequence 0111001010 assuming A is the initial state.

Input	A	B	C	D	A	B	C	D
0	A	C	B	C	s	d	d	d
1	B	D	B	D	d	d	d	s

2. Devise a finite state machine (show the transition diagram) with inputs $I = \{0, 1\}$ which accepts a string $a_1 a_2 \ldots a_n$ exactly when $n \geq 2$ and $a_{n-1} \neq a_n$.