

## DDMIN Homework

**Problem 1:** Find the answer DDMIN would obtain for the test function  $F(\cdot)$  defined as follows on subsets of  $S = \{0, 1, 2, 3, 4, 5, 6, 7\}$   $F(S) = 1$ ,  $F(\{0,1,2,3,4,5,6\}) = 1$ ,  $F(\{0,1,2,3\}) = 1$ ,  $F(\{1,2\}) = 1$   $F(T) = 0$  on all other subsets of  $S$ .  $F(x) = 1$  means the input  $x$  produces the bug. Show your work.

**Problem 2:**  $S = \{0, 1, 2, 3, 4, 5, 6, 7\}$  and  $F(S) = 1$ .  $T$  is a subset with *three* element and  $F(X) = 1$  for all supersets of  $T$  including  $T$  itself.  $F(Y) = 0$  for all other subsets. What are choices for  $T$  for which DDMIN will produce it as the answer? How many are the choices for  $T$  for which DDMIN will produce it as the answer?

**Problem 3:**  $S = \{0, 1, 2, 3, 4, 5, 6, 7\}$  and  $F(S) = 1$ .  $T$  is a subset with *two* element and  $F(X) = 1$  for all supersets of  $T$  including  $T$  itself.  $F(Y) = 0$  for all other subsets. What are choices for  $T$  for which DDMIN will produce it as the answer? How many are the choices for  $T$  for which DDMIN will produce it as the answer?

**Problem 4:**  $S = \{0, 1, 2, 3, 4, 5, 6, 7\}$  and  $F(S) = 1$ .  $T$  is a subset with *one* element and  $F(X) = 1$  for all supersets of  $T$  including  $T$  itself.  $F(Y) = 0$  for all other subsets. What are choices for  $T$  for which DDMIN will produce it as the answer? How many are the choices for  $T$  for which DDMIN will produce it as the answer?