

CSE 150 Foundations of Computer Science: Honors, Fall 2005

Assignment #2.1

The goal of this quiz is to make sure you will have no problems with countability in the future.

In the following table, F stands for Finite, I for Infinitely Countable, C for Countable, U for uncountable. Put a checkmark next to the strongest statement you can make about the resulting set (i.e. correct answer for $F \cup F$ is finite, even though it is countable as well). Check ? whenever there's not enough information to decide, i.e. there can be different cases with no 'strongest' answer.

Set	F	I	C	U	?	*	Set	F	I	C	U	?
$F \cup F$						*	$C \cup F$					
$F \cup I$						*	$C \cup I$					
$F \cup C$						*	$C \cup C$					
$F \cup U$						*	$C \cup U$					
$F \cap F$						*	$C \cap F$					
$F \cap I$						*	$C \cap I$					
$F \cap C$						*	$C \cap C$					
$F \cap U$						*	$C \cap U$					
$F - F$						*	$C - F$					
$F - I$						*	$C - I$					
$F - C$						*	$C - C$					
$F - U$						*	$C - U$					
$F \times F$						*	$C \times F$					
$F \times I$						*	$C \times I$					
$F \times C$						*	$C \times C$					
$F \times U$						*	$C \times U$					
$I \cup F$						*	$U \cup F$					
$I \cup I$						*	$U \cup I$					
$I \cup C$						*	$U \cup C$					
$I \cup U$						*	$U \cup U$					
$I \cap F$						*	$U \cap F$					
$I \cap I$						*	$U \cap I$					
$I \cap C$						*	$U \cap C$					
$I \cap U$						*	$U \cap U$					
$I - F$						*	$U - F$					
$I - I$						*	$U - I$					
$I - C$						*	$U - C$					
$I - U$						*	$U - U$					
$I \times F$						*	$U \times F$					
$I \times I$						*	$U \times I$					
$I \times C$						*	$U \times C$					
$I \times U$						*	$U \times U$					