

Discrete Structures
CMSC 250
Lecture 1

January 28, 2008

Chapter 10, Graph Theory

Definitions

- The formal definition of graph G is 2 finite sets:
 - $V(G)$ = a set of vertices
 - $E(G)$ = a set of edges
- Example:
 - $V(H) = \{a,b,c,d,e\}$ $E(H) = \{\{a,c\},\{c,e\},\{e,b\},\{b,d\},\{d,a\}\}$
 - $V(K) = \{a,b,c,d\}$ $E(K) = \{(a,b),(b,a),(a,d),(d,a),(c,c)\}$
- Subgraph: H is a subgraph of G iff $V(H) \subseteq V(G)$ and $E(H) \subseteq E(G)$