MAC0328 - GRAPHS ALGORITHMS

monday, august 22

DIGRAPHS

- Let $D = (V, A)$ be a digraph. Let $v \in V$ be a vertex.
- The out-degree of v is the number of arcs that leave v.
- The in-degree of v is the number of arcs that enter v.
- the loop not enter or leave any vertex.

GRAPHS

- let $G = (V, E)$ be a graph. Let $v \in V$ be a vertex.
- the degree of v is the number of neighbour of v.
- same as the digraphs, the loop doesn't contribute to the degree.

BGL : INTERNAL PROPERTIES

- list of predefined tags on 'boost.org'
- bundled property

WALKS AND PATHS

- $v_{i-1} v_i \in A \longrightarrow (v_{i-1}, v_i) \in A$
- $v_{i-1} v_i \in E \longrightarrow \{v_{i-1}, v_i\} \in E$ set
- in a walk, we can repeate vertexes : $< 4, 5, 5, 1, 2, 3, 1 >$

  the length of this walk is 6

  $< 4, 5, 5, 1, 2, 3, 1 > \longrightarrow l = 6$
- $< 4, 5, 5, 1, 2, 3, 1 >$ isn't a path because $v_0, \ldots, v_l$ aren't pairwise distinct.
- hamiltonia: touch all the vertexes

wednesday, august 31 (lecture 05)

EXAMPLE

a or b

$\neg x_1$ or $\neg x_2$

$arc(\neg a, b) = (x_1, \neg x_2)$

$arc(\neg b, a) = (x_2, \neg x_1)$

- exercise: motivation to the first programming assignment.