

DFS

G S S_1 RIFERIRE $\forall v$ NON ESPLORATO $d() = \text{DISCOVER}$ $f() = \text{FINAL}$

DFS(G)

INIT $COL = W, \pi = \text{NIL}$

$time = 0$

FOREACH $W \in V$

IF $COL(W) = W$

DFS-VISIT(W)

DFS-VISIT(W)

$COL(W) = G$

$d(W) = ++time$

FOREACH $v \in \text{Adj}(W)$

IF $COL(v) = W$

$\pi(v) = W$

DFS-VISIT(v)

$COL(W) = B$

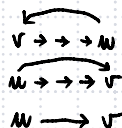
$f(W) = ++time$

$t = \Theta(|V| + |E|)$

CLASSIFICAZIONE ARCHI

G ORIENTATO

- $COL(v) = W \rightarrow (W, v)$ ARCO TREE
- $COL(v) = G \rightarrow (W, v)$ ARCO ALL'INDIETRO (\exists CICLO)
- $COL(v) = B \wedge d(W) < d(v) \rightarrow$ ARCO IN AVANTI
- $COL(v) = B \wedge d(W) > d(v) \rightarrow$ ARCO CROSSING



G NON ORIENTATO

- $COL(v) = W \rightarrow (W, v)$ ARCO TREE
- $COL(v) = G \wedge v \neq \pi(W) \rightarrow (W, v)$ ARCO ALL'INDIETRO (\exists CICLO)

$W - v - -$