

# Algorithms Homework 4

5. (a) Time to compute the out degree is  $|Vertices| + |Edges|$   
 In degree would be the same amount of time. Still have  
 to go over every vertex and edge  
 (b)

6. (a)

	$d$	$\pi$
$u$	0	Null
$t$	1	$u$
$x$	1	$u$
$y$	1	$u$
$w$	2	$t$
$s$	3	$w$
$r$	4	$s$
$v$	5	$r$

- (b) The algorithm never checks if a vertex is black so there's  
 no reason to set them to black. This allows a single  
 bit to store color info: 0 for white, 1 for gray