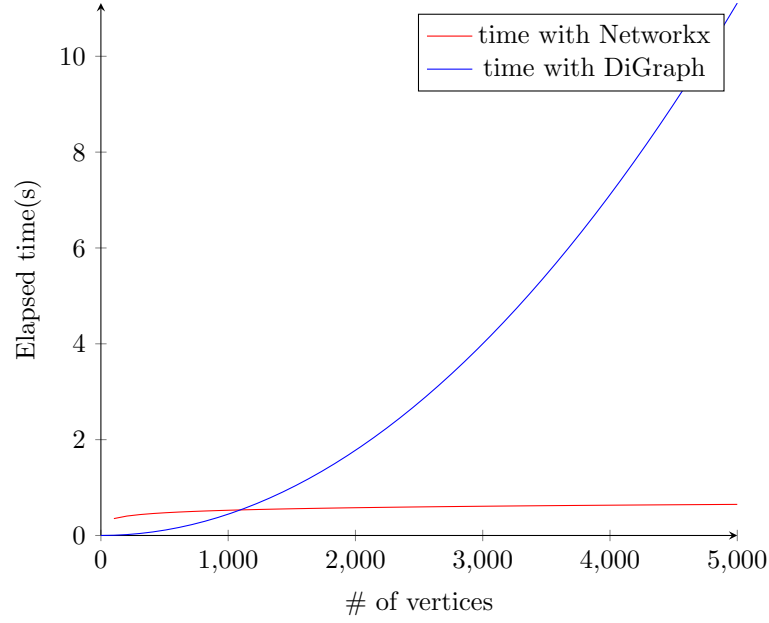


# Networkx library vs. DiGraph class

STATS			
# of vertices	type	sample paths	Elapsed Time
500	Networkx	['dubbers', 'neuters', 'peptone']	$4.8 \times 10^{-5}$ s
	DiGraph	[('dubbers', 'boreens'), ('boreens', 'peptone')]	$2.5 \times 10^{-2}$ s
	Networkx	['caddice', 'angelic', 'cyanate']	$3.7 \times 10^{-5}$ s
	DiGraph	[('caddice', 'astelic'), ('astelic', 'cyanate')]	$8.3 \times 10^{-3}$ s
	Networkx	['hokonui', 'ruction']	$2.5 \times 10^{-5}$ s
	DiGraph	[('hokonui', 'ruction')]	$1.3 \times 10^{-3}$ s
	Networkx	['sideral', 'salutes', 'hocuses']	$6.5 \times 10^{-5}$ s
	DiGraph	[('sideral', 'becurls'), ('becurls', 'hocuses')]	$4.5 \times 10^{-2}$ s
	Networkx	['sheepos', 'powters', 'madwort']	$4.7 \times 10^{-5}$ s
	DiGraph	[('sheepos', 'drowses'), ('drowses', 'madwort')]	$6.1 \times 10^{-2}$ s
1000	Networkx	['gorgons', 'informs']	$4.7 \times 10^{-5}$ s
	DiGraph	[('gorgons', 'informs')]	$4.4 \times 10^{-3}$ s
	Networkx	['maelids', 'stamper', 'erasure']	$1.1 \times 10^{-4}$ s
	DiGraph	[('maelids', 'dustier'), ('dustier', 'erasure')]	$2.1 \times 10^{-2}$ s
	Networkx	['planked', 'damsels', 'muskegs', 'gummous']	$1.1 \times 10^{-4}$ s
	DiGraph	[('planked', 'plucker'), ('plucker', 'scourge'), ('scourge', 'gummous')]	1.2 s
	Networkx	['althaea', 'petaras', 'jazzers']	$5.5 \times 10^{-5}$ s
	DiGraph	[('althaea', 'stapler'), ('stapler', 'jazzers')]	$4.2 \times 10^{-2}$ s
	Networkx	['patness', 'paeonic', 'flacons']	$8.4 \times 10^{-5}$ s
	DiGraph	[('patness', 'parcels'), ('parcels', 'flacons')]	$1.5 \times 10^{-2}$ s
1500	Networkx	['folkmot', 'smooths', 'chromas']	$1.2 \times 10^{-4}$ s
	DiGraph	[('folkmot', 'smooths'), ('smooths', 'chromas')]	$1.1 \times 10^{-1}$ s
	Networkx	['plating', 'lotions', 'outtold']	$9.3 \times 10^{-5}$ s
	DiGraph	[('plating', 'lotions'), ('lotions', 'outtold')]	$8.1 \times 10^{-1}$ s
	Networkx	['remodel', 'clotter', 'outtold']	$9.2 \times 10^{-5}$ s
	DiGraph	[('remodel', 'outedge'), ('outedge', 'outtold')]	$2.7 \times 10^{-1}$ s
	Networkx	['legongs', 'consult', 'mutines']	$9.1 \times 10^{-5}$ s
	DiGraph	[('legongs', 'skeeing'), ('skeeing', 'mutines')]	$4.9 \times 10^{-2}$ s
	Networkx	['nursery', 'downers', 'redcaps']	$8.8 \times 10^{-5}$ s
	DiGraph	[('nursery', 'remoras'), ('remoras', 'redcaps')]	$1.1 \times 10^{-1}$ s
2000	Networkx	['relaxin', 'rancing', 'bonings']	$2.4 \times 10^{-4}$ s
	DiGraph	[('relaxin', 'ironise'), ('ironise', 'bonings')]	$4.7 \times 10^{-1}$ s
	Networkx	['abridge', 'hastier', 'futures']	$1.7 \times 10^{-4}$ s
	DiGraph	[('abridge', 'hastier'), ('hastier', 'futures')]	1.1 s
	Networkx	['airings', 'interim', 'cometic']	$1.3 \times 10^{-4}$ s
	DiGraph	[('airings', 'caniest'), ('caniest', 'cometic')]	1.5 s
	Networkx	['blawort', 'maltier', 'pilcher']	$8.2 \times 10^{-5}$ s
	DiGraph	[('blawort', 'railbed'), ('railbed', 'pilcher')]	$5.8 \times 10^{-1}$ s
	Networkx	['chibols', 'miscode', 'rewinds']	$9.4 \times 10^{-5}$ s
	DiGraph	[('chibols', 'shilled'), ('shilled', 'rewinds')]	$5.8 \times 10^{-2}$ s
2500	Networkx	['midmost', 'posties', 'lysines']	$9.4 \times 10^{-5}$ s
	DiGraph	[('midmost', 'emetins'), ('emetins', 'lysines')]	$9.0 \times 10^{-2}$ s
	Networkx	['zingaro', 'santero', 'swathed']	$1.2 \times 10^{-4}$ s
	DiGraph	[('zingaro', 'easting'), ('easting', 'swathed')]	2.7 s
	Networkx	['pigtail', 'stabile', 'burbles']	$1.5 \times 10^{-4}$ s
	DiGraph	[('pigtail', 'lairise'), ('lairise', 'burbles')]	3.1 s
	Networkx	['nutwood', 'buncoed', 'pinched']	$1.2 \times 10^{-4}$ s
	DiGraph	[('nutwood', 'pouncet'), ('pouncet', 'pinched')]	1.5 s
	Networkx	['andvile', 'ikebana', 'bagnios']	$2.1 \times 10^{-4}$ s
	DiGraph	[('andvile', 'yodling'), ('yodling', 'bagnios')]	$8.9 \times 10^{-1}$ s

STATS			
# of vertices	type	sample paths	Elapsed Time
3000	Networkx	['lensmen', 'gyrenes', 'garnish']	$2.0 \times 10^{-4}$ s
	DiGraph	[('lensmen', 'manwise'), ('manwise', 'garnish')]	1.2 s
	Networkx	['bogyman', 'decagon', 'scooped', 'pickers']	$5.1 \times 10^{-4}$ s
	DiGraph	[('bogyman', 'bausond'), ('bausond', 'debarks'), ('debarks', 'pickers')]	28.4 s
	Networkx	['gollans', 'litoral', 'mooktar']	$3.2 \times 10^{-4}$ s
	DiGraph	[('gollans', 'megaron'), ('megaron', 'mooktar')]	$6.3 \times 10^{-1}$ s
	Networkx	['lording', 'poitrel']	$9.2 \times 10^{-5}$ s
	DiGraph	[('lording', 'poitrel')]	$6.2 \times 10^{-3}$ s
	Networkx	['realtor', 'carpale']	$6.1 \times 10^{-4}$ s
	DiGraph	[('realtor', 'carpale')]	$7.3 \times 10^{-2}$ s
3500	Networkx	['broaden', 'pirogen']	$2.2 \times 10^{-4}$ s
	DiGraph	[('broaden', 'pirogen')]	$3.9 \times 10^{-2}$ s
	Networkx	['cagmags', 'impacts', 'poetise']	$2.1 \times 10^{-4}$ s
	DiGraph	[('cagmags', 'atomics'), ('atomics', 'poetise')]	3.3 s
	Networkx	['aneared', 'reamers', 'beware']	$2.7 \times 10^{-4}$ s
	DiGraph	[('aneared', 'radioed'), ('radioed', 'beware')]	$2.7 \times 10^{-1}$ s
	Networkx	['hilloed', 'birthed', 'bartsia']	$1.9 \times 10^{-4}$ s
	DiGraph	[('hilloed', 'lathier'), ('lathier', 'bartsia')]	8.4 s
	Networkx	['jihadis', 'haziest', 'heezing']	$1.0 \times 10^{-4}$ s
	DiGraph	[('jihadis', 'hayings'), ('hayings', 'heezing')]	$3.9 \times 10^{-1}$ s
4000	Networkx	['balista', 'kasbahs', 'splakes']	$3.2 \times 10^{-4}$ s
	DiGraph	[('balista', 'pilaffs'), ('pilaffs', 'splakes')]	6.3 s
	Networkx	['goodmen', 'dogears', 'nocakes']	$2.5 \times 10^{-4}$ s
	DiGraph	[('goodmen', 'songman'), ('songman', 'nocakes')]	1.8 s
	Networkx	['clacked', 'crestal', 'rebites']	$1.7 \times 10^{-4}$ s
	DiGraph	[('clacked', 'batiked'), ('batiked', 'rebites')]	6.1 s
	Networkx	['blatest', 'wrestle', 'sleechy']	$2.9 \times 10^{-4}$ s
	DiGraph	[('blatest', 'scantly'), ('scantly', 'sleechy')]	1.2 s
	Networkx	['dandler', 'garners']	$6.0 \times 10^{-5}$ s
	DiGraph	[('dandler', 'garners')]	$1.5 \times 10^{-1}$ s
4500	Networkx	['surname', 'malmsey', 'stagily']	$5.0 \times 10^{-4}$ s
	DiGraph	[('surname', 'irisate'), ('irisate', 'stagily')]	2.8 s
	Networkx	['laiding', 'lungans', 'nunatak']	$4.9 \times 10^{-4}$ s
	DiGraph	[('laiding', 'latinas'), ('latinas', 'nunatak')]	12.2 s
	Networkx	['coverer', 'recoats', 'stopped']	$2.4 \times 10^{-4}$ s
	DiGraph	[('coverer', 'revolts'), ('revolts', 'stopped')]	1.5 s
	Networkx	['cloning', 'eosinic', 'corvets']	$2.4 \times 10^{-4}$ s
	DiGraph	[('cloning', 'logiest'), ('logiest', 'corvets')]	3.0 s
	Networkx	['degamis', 'disform', 'deposer']	$3.9 \times 10^{-4}$ s
	DiGraph	[('degamis', 'defaste'), ('defaste', 'deposer')]	$4.0 \times 10^{-1}$ s
5000	Networkx	['chamiso', 'mashuas', 'asphalt']	$2.7 \times 10^{-4}$ s
	DiGraph	[('chamiso', 'kamilas'), ('kamilas', 'asphalt')]	1.1 s
	Networkx	['injurer', 'pardine', 'ikebana']	$2.2 \times 10^{-4}$ s
	DiGraph	[('injurer', 'nickers'), ('nickers', 'ikebana')]	1.1 s
	Networkx	['bardism', 'caritas']	$4.6 \times 10^{-5}$ s
	DiGraph	[('bardism', 'caritas')]	$1.6 \times 10^{-1}$ s
	Networkx	['affrets', 'easting', 'gnawing']	$5.8 \times 10^{-4}$ s
	DiGraph	[('affrets', 'gannets'), ('gannets', 'gnawing')]	50.4 s
	Networkx	['gyrator', 'amoret', 'humites']	$2.9 \times 10^{-4}$ s
	DiGraph	[('gyrator', 'amoret'), ('amoret', 'humites')]	1.3 s

MEANS OF ELAPSED TIMES		
Types Number of Vertices	Networkx	DiGraph
500	$4.5 \times 10^{-5}$ s	$2.8 \times 10^{-2}$ s
1000	$8.0 \times 10^{-5}$ s	$2.5 \times 10^{-1}$ s
1500	$9.3 \times 10^{-5}$ s	$2.6 \times 10^{-1}$ s
2000	$1.4 \times 10^{-4}$ s	$7.5 \times 10^{-1}$ s
2500	$1.5 \times 10^{-4}$ s	1.6 s
3000	$2.4 \times 10^{-4}$ s	6.1 s
3500	$2.5 \times 10^{-4}$ s	2.5 s
4000	$2.2 \times 10^{-4}$ s	3.1 s
4500	$3.7 \times 10^{-4}$ s	4.1 s
5000	$2.8 \times 10^{-4}$ s	10.8 s



Datalara göre en anlamlı grafik yukarıdaki gibi oluşuyor. Vertex sayısının belirli bi yerden sonraki artışı Networkx'i çok etkilemezken DiGraph bu durumdan oldukça etkileniyor. Görüldüğü üzere Networkx  $\Theta \lg N$  ile oldukça iyi çalışıyor :)