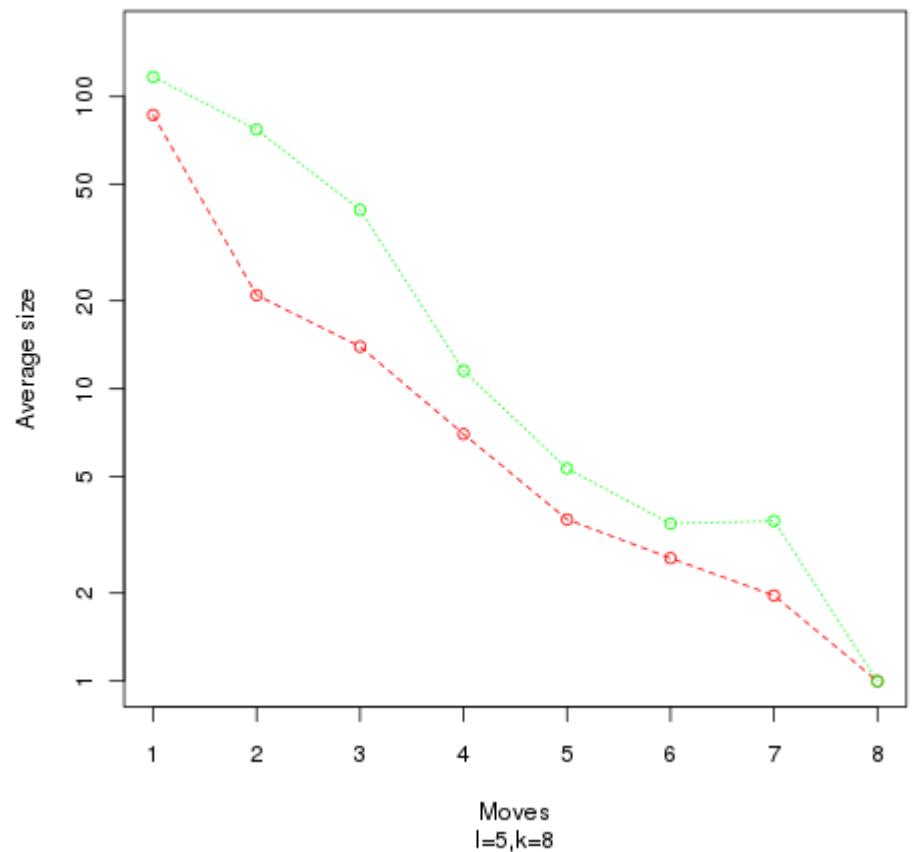
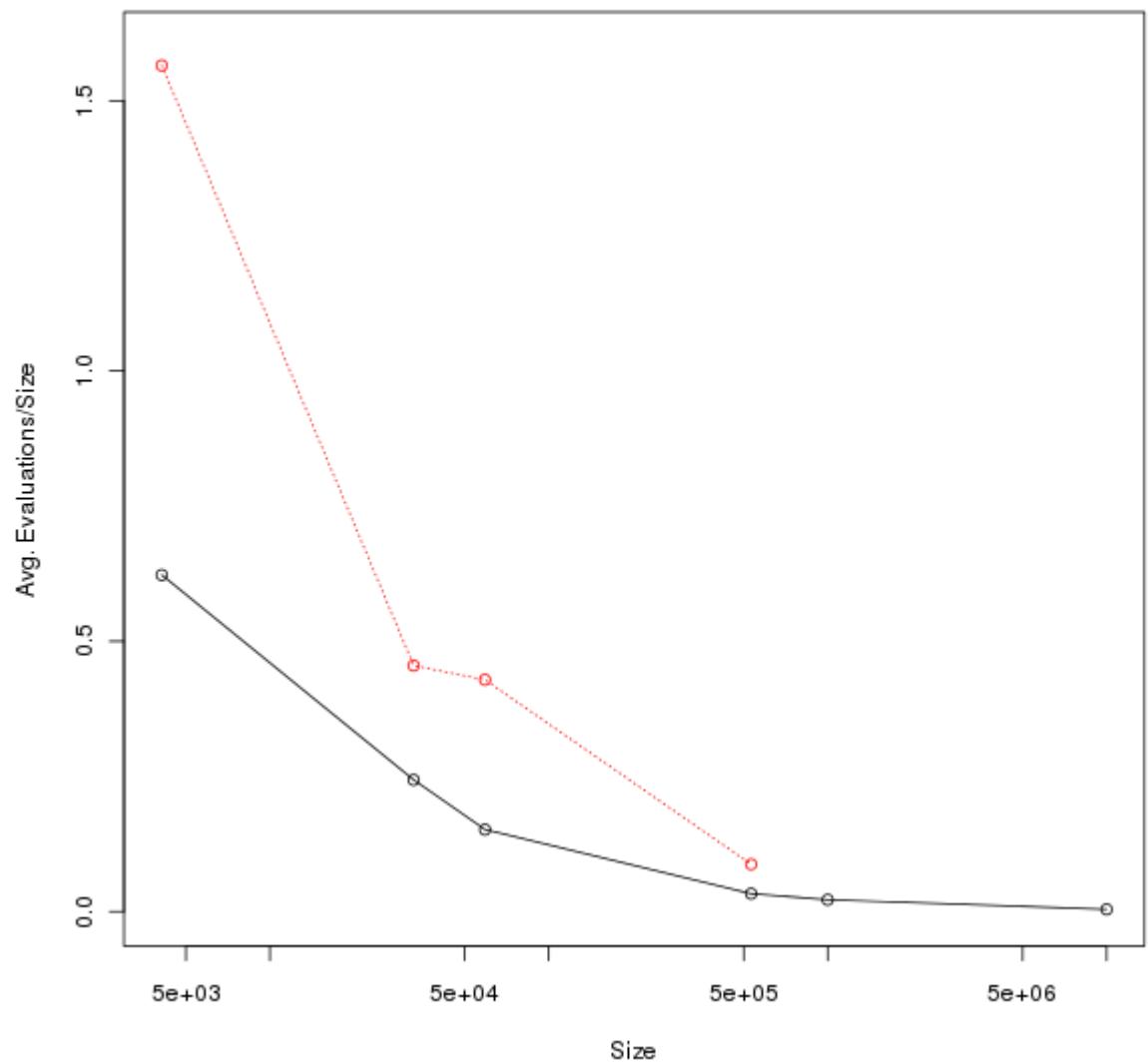


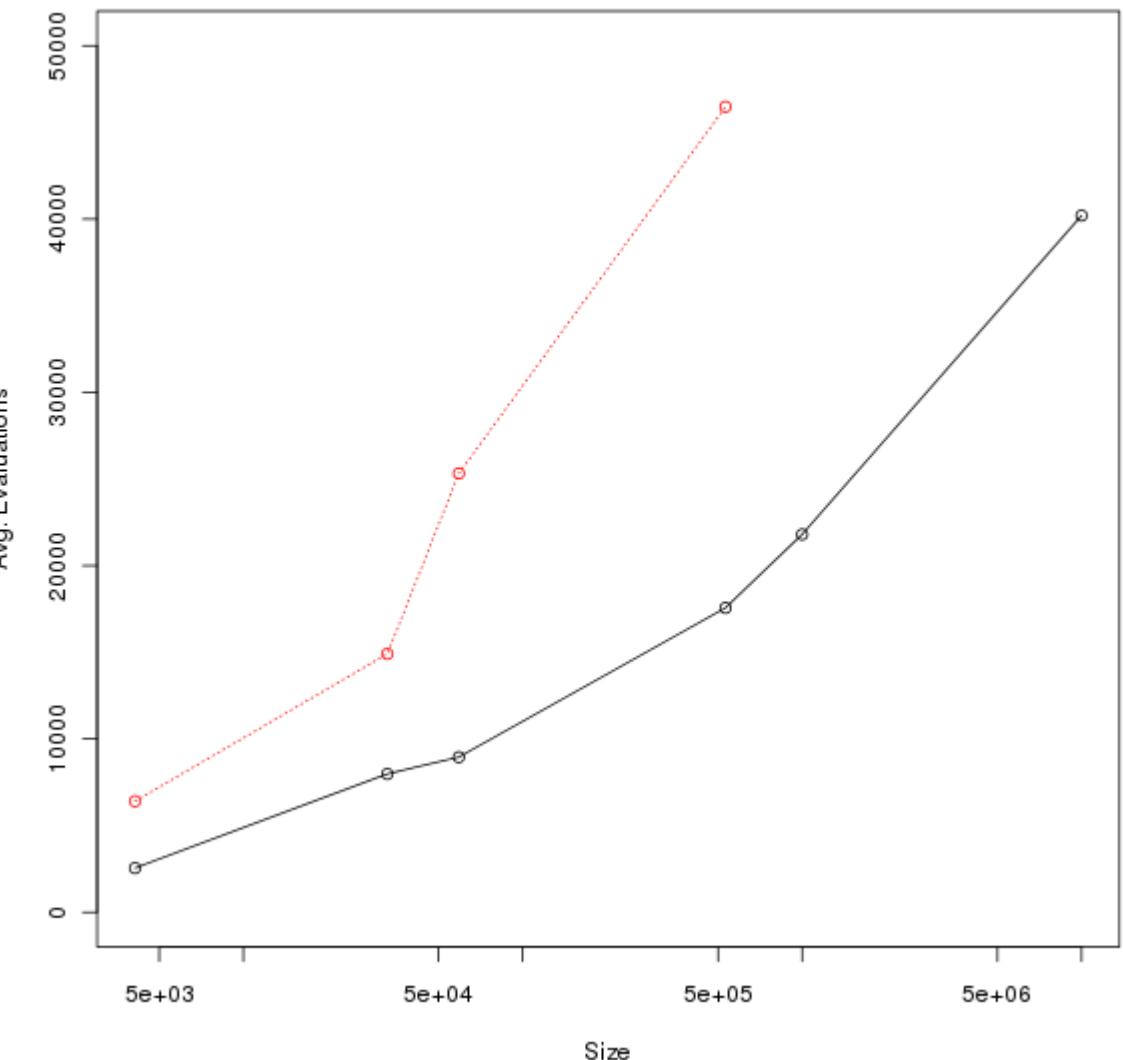
Actual Consistent Set Size



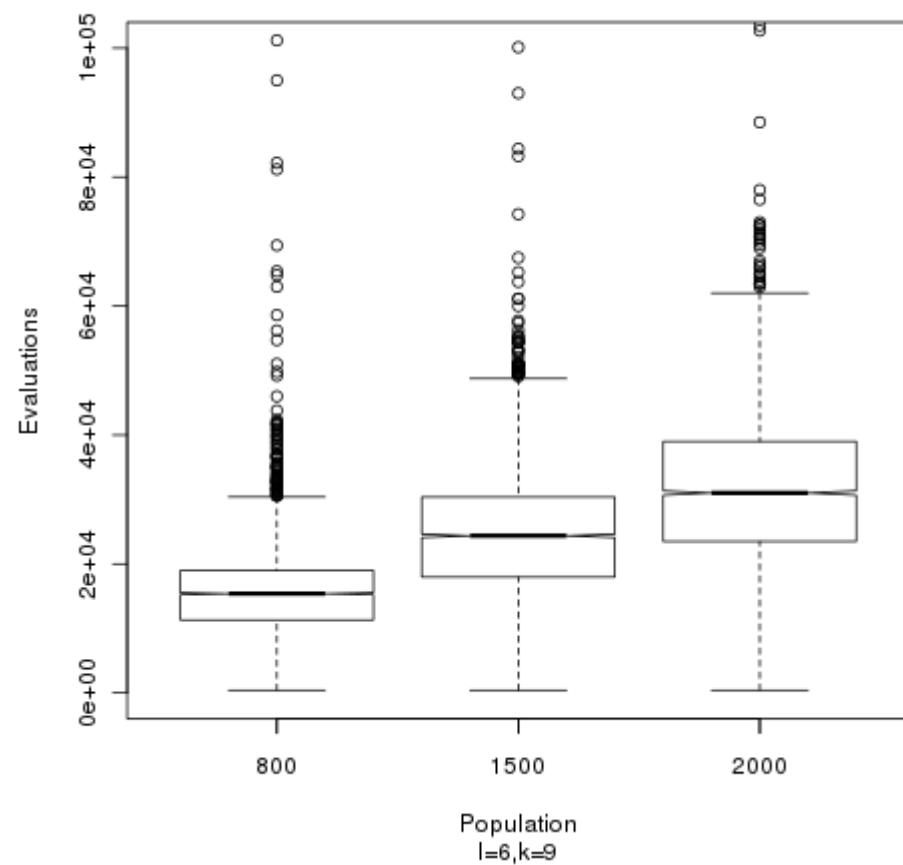
Proportion search space examined

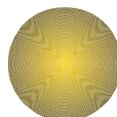
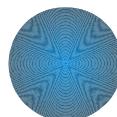
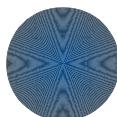
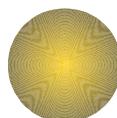
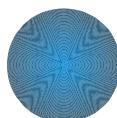
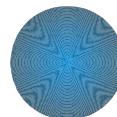
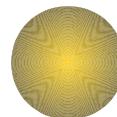


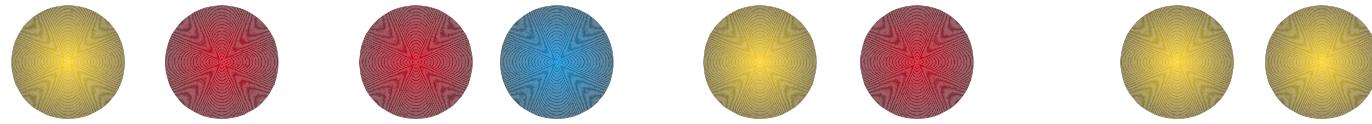
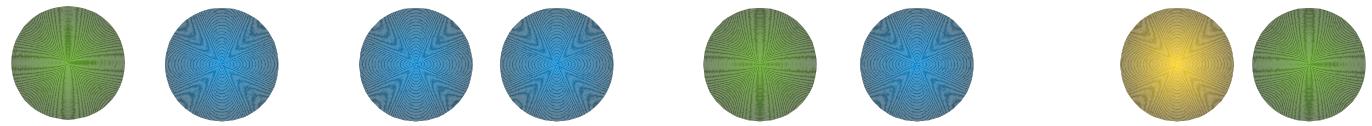
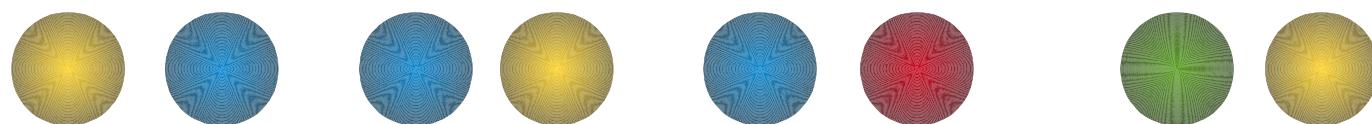
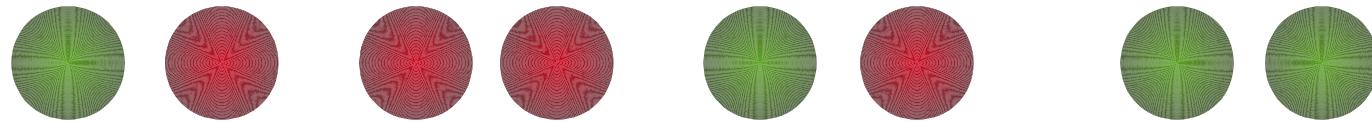
Evaluations needed

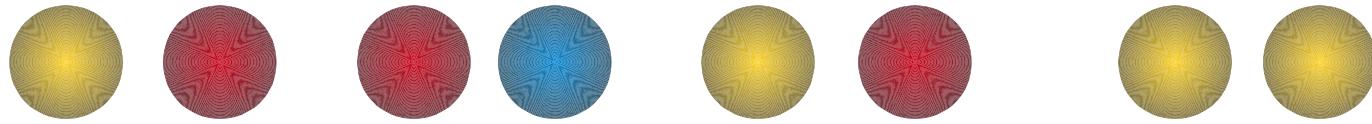
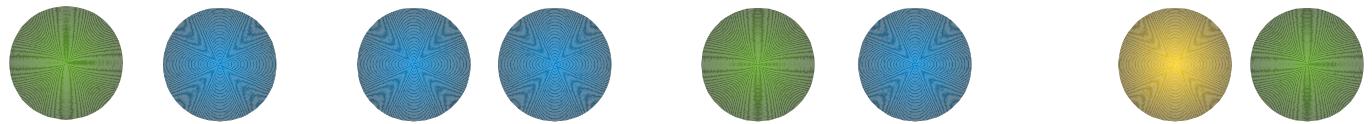
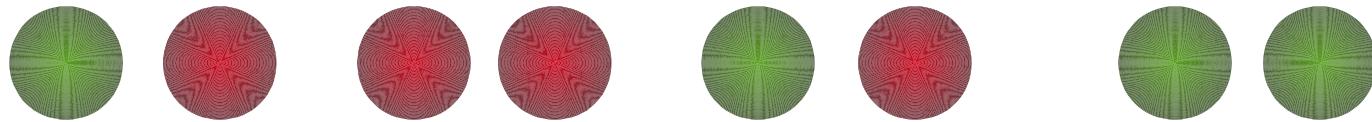


Evaluations vs. Population









(a) Mean number of guesses and the standard error of the mean for $\ell = 4, 5$, the quantities in parentheses indicate population and consistent set size (in the case of the previous results).

	$\ell = 4$	$\ell = 5$	
	$\kappa = 8$	$\kappa = 8$	$\kappa = 9$
Berghman et al.		5.618	
Evo++	(400,30) 5.15 ± 0.013	(600,40) 5.62 ± 0.012	(800,80) 5.94 ± 0.012
Evo10	(200) 5.209 ± 0.012	(600) 5.652 ± 0.011	(800) 6.013 ± 0.012
EFE8	(200) 5.247 ± 0.013	(600) 5.689 ± 0.012	(800) 6.005 ± 0.012
EFE16	(200) 5.222 ± 0.013	(600) 5.624 ± 0.012	(800) 5.9832 ± 0.012

(b) Mean number of guesses and the standard error of the mean for $\ell = 6, 7$, the quantities in parentheses indicate population and consistent set size (in the case of the previous results).

	$\ell = 6$		$\ell = 7$	
	$\kappa = 9$	$\kappa = 10$	$\kappa = 10$	
Berghman et al.	6.475			
Evo++	(1000,100) 6.479 ± 0.012			
Evo10	(800) 6.504 ± 0.012	(1000) 6.877 ± 0.013	(1500) 7.425 ± 0.013	
EFE8	(800) 6.537 ± 0.012	(1000) 6.891 ± 0.013	(1500) 7.422 ± 0.013	
EFE16	(800) 6.488 ± 0.012	(1000) 6.853 ± 0.013	(1500) 7.372 ± 0.013	

(c) Mean number of evaluations and its standard deviation $\ell = 4, 5$.

	$\ell = 4$	$\ell = 5$	
	$\kappa = 8$	$\kappa = 8$	$\kappa = 9$
Evo++	6949 ± 48	14911 ± 6120	25323 ± 9972
Evo10	2551 ± 20	7981 ± 50	8953 ± 3982
EFE8	2475 ± 56	7596 ± 49	10412 ± 65
EFE16	2896 ± 21	8947 ± 72	12261 ± 74

(d) Mean number of evaluations and its standard deviation $\ell = 6, 7$.

	$\ell = 6$		$\ell = 7$
	$\kappa = 9$	$\kappa = 10$	$\kappa = 10$
Evo++	46483 ± 17031		
Evo10	17562 ± 1914	21804 ± 960	40205 ± 926
EFE8	28875 ± 14155	21256 ± 1873	315437 ± 264054
EFE16	16993 ± 105	22819 ± 206	322319 ± 278938

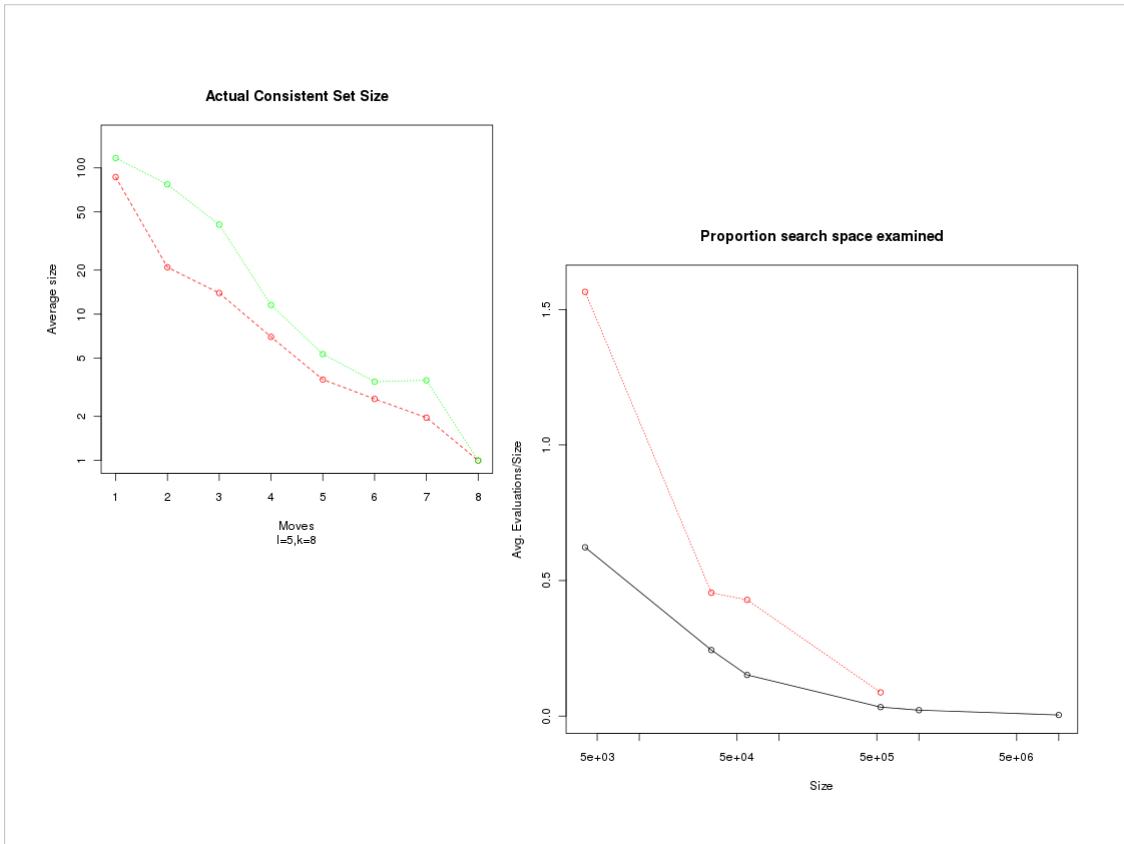
I. We can obtain good results fast using small consistent set size.

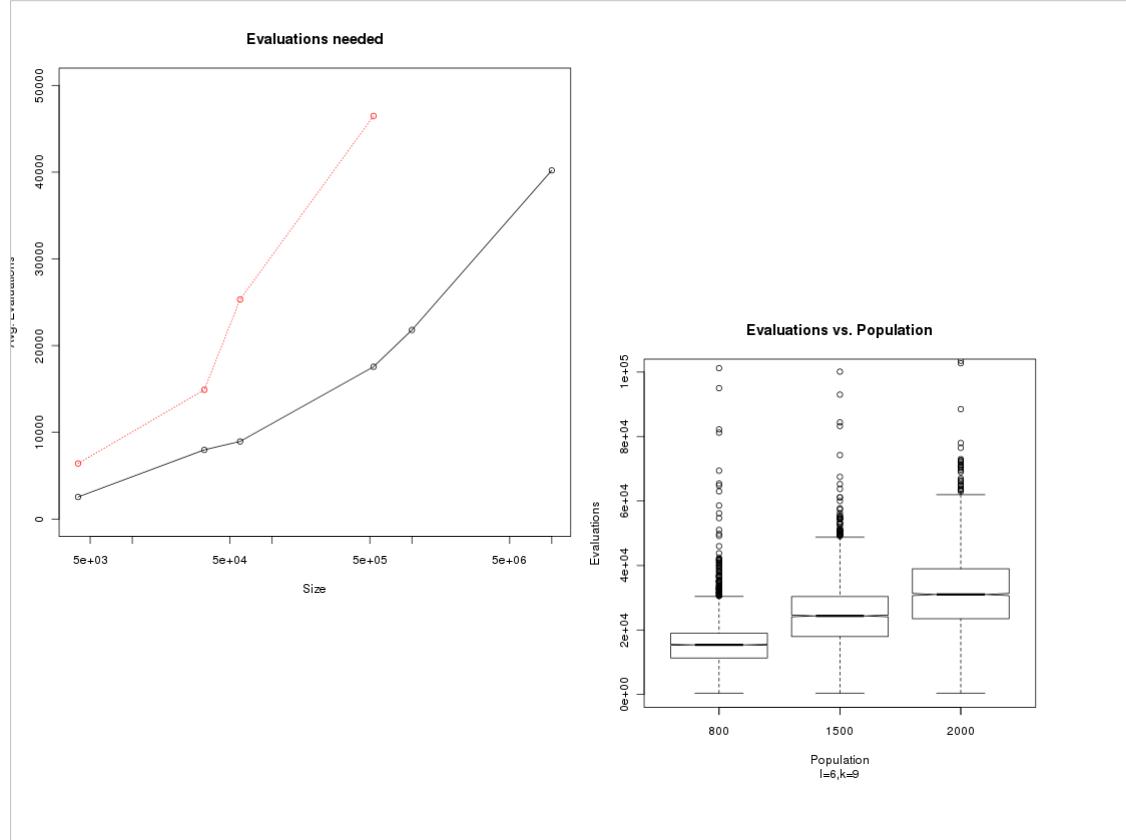
II. Range of Affordable sizes can be extended.

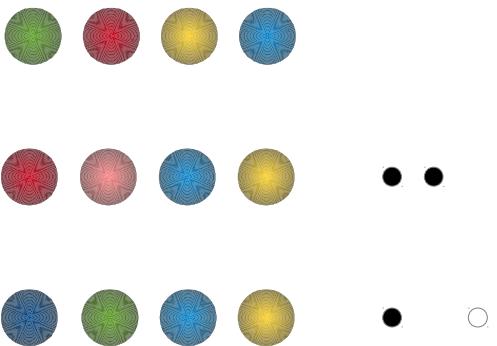
III. Small consistent set size delays the beginning of the evolutionary algorithm.

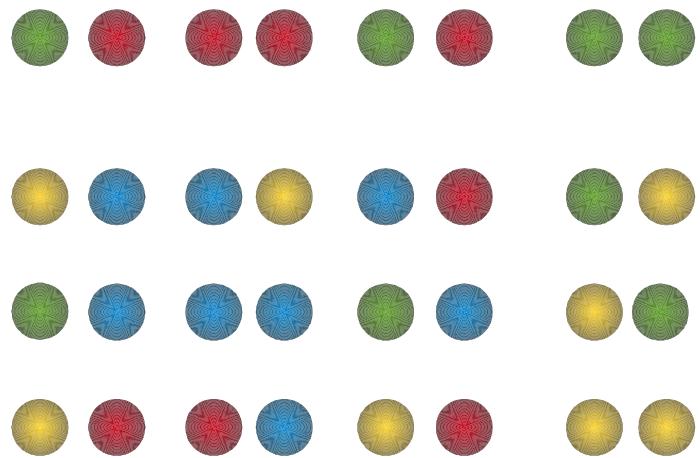
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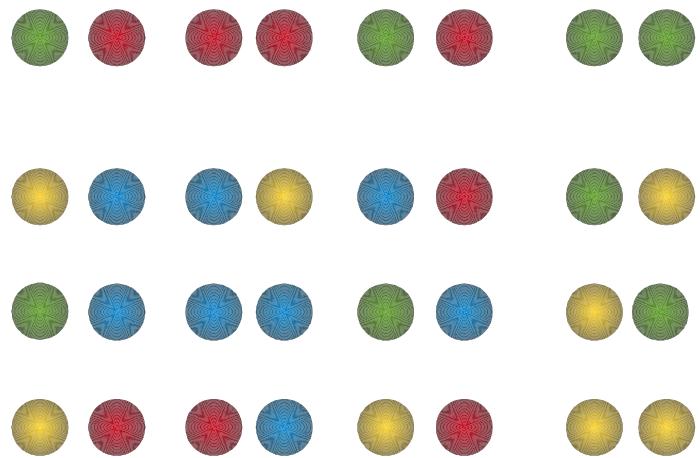
<http://git.io/mm-cec>











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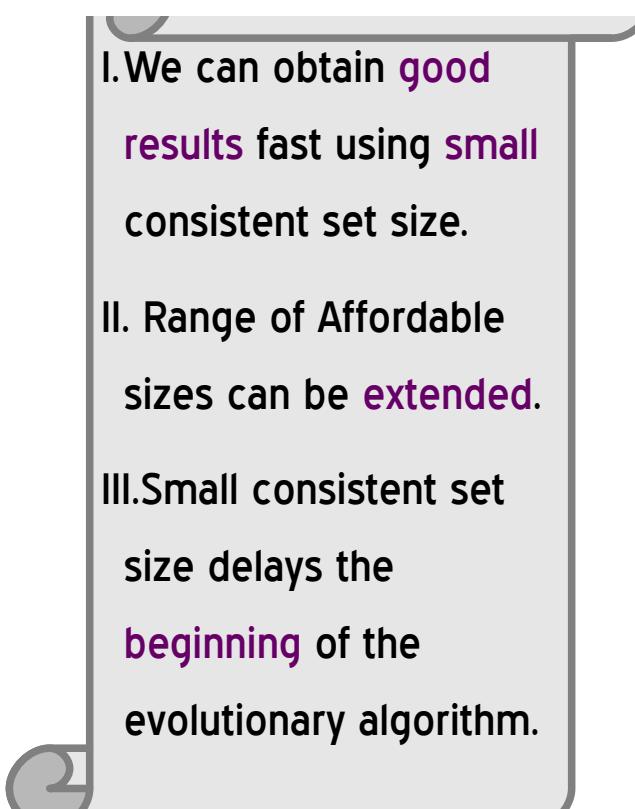
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 - II. Range of Affordable sizes can be **extended**.
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