prog1

n	runtime	lg(n)	lg(O(n))	Estimate runtime
50	2	5.64385619	1	O(n^2.5)
100	4	6.64385619	2	
200	16	7.64385619	4	
400	86	8.64385619	6.426264755	
800	460	9.64385619	8.845490051	
1600	2823	10.64385619	11.46301341	
3200	19247	11.64385619	14.23234597	
6400	468191	12.64385619	18.83673768	

prog2

n	runtime	lg(n)	lg(O(n))	Estimate runtime
50	2	5.64385619	1	O(n^0.84)
100	3	6.64385619	1.584962501	
200	4	7.64385619	2	
400	6	8.64385619	2.584962501	
800	11	9.64385619	3.459431619	
1600	20	10.64385619	4.321928095	
3200	41	11.64385619	5.357552005	
6400	153	12.64385619	7.257387843	

prog3	runtime	lg(n)	lg(O(n))	Estimate runtime
16	2	4	1	O(n^5.35)
20	4	4.321928095	2	
24	58	4.584962501	5.857980995	
28	901	4.807354922	9.815383296	
32	14335	5	13.80725428	
34	57247	5.087462841	15.80491247	
36	229093	5.169925001	17.80557385	
38	917270	5.247927513	19.80698693