				BugAssist					
Programs	b	P		Р	L				
		1	$=0$ ≤ 1		≤ 2	≤ 3	1		
BubbleSortV0	4	1.268	0.561	0.553	0.508	0.948	0.34	55.27	
BubbleSortV1	5	0.781	0.597	0.627	0.762	1.331	0.22	125.40	
BubbleSortV2	6	0.764	1.461	1.496	1.75	4.118	0.41	277.14	
BubbleSortV3	7	0.774	0.813	0.852	1.468	12.67	0.53	612.79	
BubbleSortV4	8	0.838	4.787	4.911	6.01	116.347	1.17	1074.67	
BubbleSortV5	9	0.837	14.234	14.228	16.753	492.178	1.24	1665.62	
BubbleSortV6	10	0.866	27.389	27.608	33.573	2078.445	1.53	2754.68	
BubbleSortV7	11	0.876	56.008	62.198	69.591	4916.434	3.94	7662.90	
BubbleSortV8	12	0.95	126.439	126.233	157.238	/	/	/	
BubbleSortV9	13	0.917	235.282	244.805	282.796	/	/	/	
BubbleSortV10	14	0.91	363.627	360.651	500.626	/	/	/	
BubbleSortV11	15	0.969	437.994	438.549	715.594	/	/	/	
BubbleSortV12	16	0.976	591.28	621.072	971.357	/	/	/	
BubbleSortV13	17	1.019	737.541	739.541	1726.373	/	/	/	
BubbleSortV14	18	1.038	954.475	1023.731	2197.53	/	/	/	
BubbleSortV15	19	1.078	1230.099	1305.219	3477.862	/	/	/	
BubbleSortV16	20	3.124	3647.636	4495.171	/	/	/	/	
BubbleSortV17	21	2.458	4698.388	4316.524	/	/	/	/	
BubbleSortV18	22	2.667	6580.013	6669.919	/	/	/	/	

Table 1 – Computation time for the benchmark BubbleSort

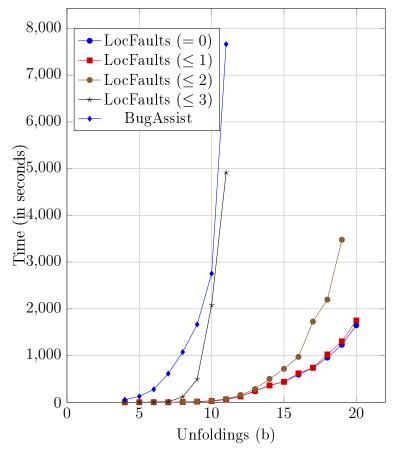


FIGURE 1 - Comparison of the evolution of times of different versions of LocFaults and BugAssist for the benchmark BubbleSort, by increasing the unwinding loop limit.

With loops Page 1 Mohammed Bekkouche

		LocFaults						BugAssist		
Programs	b	P	L				P	L		
			=0	≤ 1	≤ 2	≤ 3				
SumV0	6	0.765		0.766	0.547	0.608	0.04	2.19		
SumV2	8	0.884		0.651	0.713	0.583	0.05	4.22		
SumV4	10	1.109	1.015	2.645	1.993	2.103	0.06	5.98		
SumV6	12	0.836		1.299	1.152	1.567	0.06	7.20		
SumV8	14	0.865		1.347	1.048	1.308	0.06	10.14		
SumV10	16	0.9	0.785	1.731	1.845	1.615	0.08	17.88		
SumV12	18	1.086		4.592	4.558	3.279	0.09	21.31		
SumV14	20	0.985		3.063	3.155	3.0	0.10	26.24		
SumV16	22	1.345	1.194	6.146	6.823	7.216	0.13	33.18		
SumV18	24	0.987		3.029	3.163	3.436	0.10	37.36		
SumV20	26	1.11	1.449	7.27	7.264	6.34	0.12	53.85		
SumV22	28	0.96	0.688	4.061	5.429	10.17	0.14	60.68		
SumV24	30	0.999	0.956	3.696	3.714	3.809	0.12	80.80		
SumV26	32	1.001	0.132	3.326	3.299	3.681	0.14	89.79		
SumV28	34	1.103	1.173	8.356	6.706	6.187	0.15	81.19		
SumV30	36	1.255	0.389	8.727	4.89	4.103	0.13	108.31		
SumV32	38	1.061	0.821	7.475	4.176	4.502	0.13	127.10		
SumV34	40	0.975	0.117	4.916	4.463	4.706	0.15	156.84		
SumV36	42	1.008	0.121	4.914	5.448	5.202	0.16	169.73		
SumV38	44	1.133	0.164	11.289	11.598	7.047	0.18	192.34		
SumV40	46	1.052		5.258	5.746	13.558	0.23	206.77		
SumV42	48	0.936		5.497	5.978	5.396	0.17	223.07		
SumV44	50	1.042		6.129	6.451	6.384	0.20	259.24		
SumV46	52	0.987		6.367	6.273	6.163	0.20	285.80		
SumV48	54	1.15	0.216	17.045	13.168		0.24	293.56		
SumV50	56	1.06	0.163	7.328	6.891	6.781	0.22	341.41		
SumV52	58	1.183		14.605	14.619	8.055	0.23	368.68		
SumV54	60	1.198		16.75	11.041	8.553	0.23			
SumV56	62	1.11		8.993	8.939	9.03		442.89		
SumV58	64	1.16			11.178					
SumV60	66				13.343					
SumV62	$\frac{68}{68}$	1.702		24.791		21.123				
SumV64	$\frac{00}{70}$			30.579						
SumV66				14.736						
	72							407.33		
SumV68	$\frac{74}{76}$			9.449		10.206				
SumV70	$\frac{76}{79}$	0.82		10.066	9.453			455.76		
SumV72	$\frac{78}{20}$	0.925		28.695		13.366				
SumV74	80	0.809		11.372	11.48	20.915				
SumV76	82				12.923					
SumV78	84				22.694					
SumV80	86		0.141	13.03		12.843				
SumV82	88			25.336		21.9		634.07		
SumV84	90	0.789		15.47	15.203	15.67		617.77		
SumV86	92	0.836		16.353				700.87		
SumV88	94			16.336						
SumV90	96	0.803			28.939			785.64		
SumV92	98	0.875	0.159	19.218	37.227	24.283	0.33	752.92		
SumV94	100	1.003	0.187	21.328	37.653					

Table 2 – Computation time for the benchmark Sum

With loops Page 2 Mohammed Bekkouche

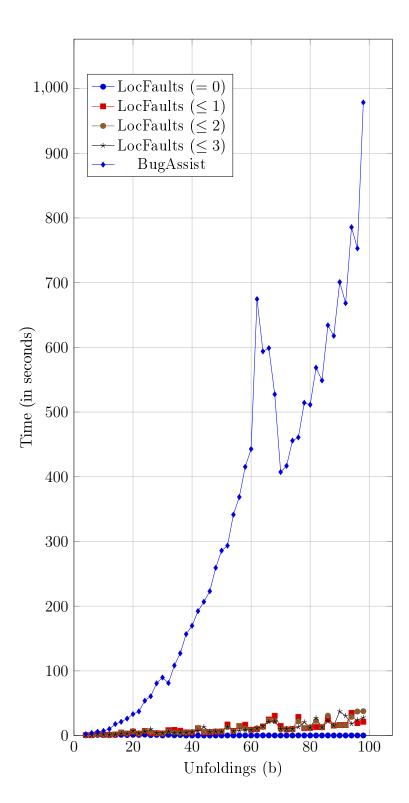


FIGURE 2 - Comparison of the evolution of times of different versions of LocFaults and BugAssist for the benchmark Sum, by increasing the unwinding loop limit.

With loops Page 3 Mohammed Bekkouche

SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 13.64 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 12.32 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV22 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV23 33 0.728 1.015 1.201 1.22 1.155 0.07 17.83 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV28 38 0.743 1.01 1.214 1.246 1.243 0.09 22			LocFaults					BugAssist	
SquareRootV0 10 1.096 S_1 S_2 S_3 N SquareRootV1 11 1.211 1.933 2.467 1.852 2.15 0.06 3.35 SquareRootV2 12 1.218 1.97 1.809 2.335 2.074 0.06 3.74 SquareRootV4 14 1.155 1.908 2.096 2.408 1.881 0.06 5.55 SquareRootV5 15 1.277 1.829 2.806 2.902 2.386 0.06 6.60 SquareRootV6 16 1.22 1.749 2.366 2.902 2.386 0.06 6.60 SquareRootV1 17 1.258 1.799 1.145 1.12 1.129 0.05 6.60 SquareRootV1 20 0.751 0.971 1.41 1.16 1.124 0.06 6.66 SquareRootV12 21 0.751 0.071 1.115 1.124 1.06 6.71 SquareRootV12 22 0.	Programs	b	D		I			D	Т
SquareRootV1 11 1.211 1.983 2.457 1.852 2.15 0.06 3.35 SquareRootV2 12 1.128 1.97 1.809 2.335 2.04 0.06 3.74 SquareRootV4 14 1.45 1.82 1.908 2.239 2.486 1.871 0.06 5.55 SquareRootV6 16 1.122 1.749 2.366 2.902 2.386 0.06 5.60 SquareRootV7 17 1.258 1.799 1.48 1.12 1.129 0.05 6.60 SquareRootV10 19 0.751 0.997 1.45 1.12 1.129 0.05 6.68 SquareRootV11 21 0.753 1.016 1.117 1.116 1.124 0.06 6.66 SquareRootV12 22 0.756 1.014 1.45 1.124 1.06 7.70 SquareRootV12 23 0.758 1.022 1.16 1.174 1.122 0.06 1.73			Г	=0	≤ 1	≤ 2	≤ 3	r	ь
SquareRootV2 12 1.128 1.97 1.809 2.335 2.074 0.06 4.88 SquareRootV4 14 1.155 1.908 2.066 2.408 1.81 0.06 5.30 SquareRootV5 15 1.247 1.832 2.366 2.026 2.366 0.06 6.50 SquareRootV6 16 1.222 1.749 2.366 2.902 2.386 0.06 6.06 SquareRootV10 19 0.751 0.997 1.144 1.126 1.149 0.05 6.68 SquareRootV10 20 0.724 0.974 1.131 1.117 1.099 0.05 6.64 SquareRootV11 21 0.750 0.014 1.141 1.121 1.124 0.06 6.61 SquareRootV12 22 0.756 1.014 1.145 1.121 1.124 0.06 6.74 SquareRootV12 25 0.758 1.046 1.77 1.195 1.199 0.05 12.58	SquareRootV0	10	1.096	1.737	2.098	2.113	2.066	0.05	3.51
SquareRootV3 13 1.191 1.885 1.908 2.325 2.384 0.06 5.30 SquareRootV5 15 1.247 1.832 2.399 2.466 1.871 0.06 5.55 SquareRootV7 16 1.122 1.749 2.366 2.92 2.386 0.06 6.60 SquareRootV7 17 1.258 1.799 2.188 2.873 2.044 0.06 6.60 SquareRootV10 19 0.751 0.997 1.141 1.126 1.149 0.05 6.64 SquareRootV11 21 0.753 1.016 1.117 1.116 1.124 0.06 6.61 SquareRootV11 21 0.753 1.016 1.117 1.116 1.124 0.06 6.71 SquareRootV12 22 0.756 1.041 1.145 1.124 1.00 6.71 SquareRootV12 23 0.738 1.021 1.15 1.124 1.02 0.06 1.76	SquareRootV1	11	1.211	1.983	2.457	1.852	2.15	0.06	3.35
SquareRootV4 14 1.155 1.908 2.096 2.408 1.831 0.06 5.30 SquareRootV5 15 1.247 1.832 2.329 2.466 1.871 0.06 5.55 SquareRootV6 17 1.258 1.799 2.188 2.873 0.04 0.60 6.60 SquareRootV71 17 1.258 1.799 2.188 2.873 0.04 1.14 1.126 1.149 0.05 6.60 SquareRootV10 20 0.724 0.974 1.131 1.117 1.099 0.05 6.64 SquareRootV11 21 0.753 1.014 1.145 1.121 1.124 0.06 6.61 SquareRootV12 22 0.756 1.014 1.145 1.121 1.00 6.61 SquareRootV13 23 0.757 1.014 1.145 1.124 0.06 6.71 SquareRootV13 25 0.758 1.021 1.154 1.14 0.07 12.74	SquareRootV2	12	1.128	1.97	1.809	2.335	2.074	0.06	3.74
SquareRootV5 15 1.247 1.832 2.329 2.466 1.871 0.06 5.55 SquareRootV7 17 1.258 1.799 2.188 2.873 2.024 0.06 6.60 SquareRootV8 18 0.737 0.974 1.144 1.126 1.149 0.05 6.68 SquareRootV10 20 0.724 0.974 1.145 1.117 1.099 0.05 6.64 SquareRootV11 21 0.753 1.016 1.117 1.116 1.124 0.06 6.66 SquareRootV11 22 0.756 1.014 1.145 1.124 1.00 6.61 SquareRootV12 24 0.757 1.01 1.115 1.124 1.02 0.06 7.70 SquareRootV12 25 0.768 1.046 1.177 1.195 1.192 0.05 1.25 SquareRootV17 27 0.758 1.022 1.163 1.152 1.212 0.06 12.78	SquareRootV3	13	1.191	1.885	1.908	2.235	2.384	0.06	4.88
SquareRootV6 16 1.122 1.749 2.366 2.902 2.386 0.06 6.60 SquareRootV7 17 1.258 1.799 2.188 2.873 2.024 0.06 6.50 SquareRootV9 19 0.751 0.997 1.145 1.126 1.149 0.05 6.68 SquareRootV10 20 0.724 0.974 1.131 1.171 1.090 0.56 6.54 SquareRootV11 21 0.753 1.014 1.145 1.124 0.06 6.66 SquareRootV12 22 0.756 1.014 1.145 1.124 1.026 6.66 SquareRootV13 23 0.734 0.993 1.1 1.154 1.134 0.06 6.77 SquareRootV14 24 0.757 1.01 1.154 1.124 0.00 7.07 SquareRootV15 25 0.768 1.024 1.14 1.22 0.06 1.27 SquareRootV17 27 0.758	SquareRootV4	14	1.155	1.908	2.096	2.408	1.881	0.06	5.30
SquareRootV7 17 1.258 1.799 2.188 2.873 2.024 0.06 6.50 SquareRootV9 19 0.751 0.997 1.145 1.12 1.128 0.05 5.64 SquareRootV10 20 0.724 0.974 1.131 1.117 1.099 0.05 6.54 SquareRootV11 21 0.753 1.016 1.117 1.106 1.124 0.06 6.66 SquareRootV12 22 0.756 1.014 1.115 1.124 1.132 0.06 6.67 SquareRootV14 24 0.757 1.01 1.115 1.124 1.132 0.06 7.67 SquareRootV16 26 0.744 1.026 1.144 1.122 0.06 1.676 SquareRootV17 27 0.758 1.021 1.151 1.123 0.06 1.268 SquareRootV18 28 0.728 1.021 1.249 1.282 0.06 1.368 SquareRootV21 3	SquareRootV5	15	1.247	1.832	2.329	2.466	1.871	0.06	5.55
SquareRootV8 18 0.737 0.974 1.144 1.126 1.149 0.05 6.08 SquareRootV10 20 0.724 0.974 1.131 1.117 1.090 0.05 6.64 SquareRootV11 21 0.753 1.016 1.117 1.106 1.026 6.66 SquareRootV12 22 0.756 1.014 1.145 1.121 1.124 0.06 6.66 SquareRootV12 24 0.757 1.01 1.115 1.124 1.132 0.06 7.67 SquareRootV12 25 0.768 1.046 1.177 1.195 1.199 0.05 1.258 SquareRootV16 26 0.744 1.026 1.164 1.174 1.22 0.06 1.278 SquareRootV17 27 0.758 1.022 1.163 1.155 1.122 0.06 1.278 SquareRootV17 30 0.721 1.048 1.16 1.171 1.222 0.06 1.234 <	SquareRootV6	16	1.122	1.749	2.366	2.902	2.386	0.06	6.60
SquareRootV9 19 0.751 0.997 1.145 1.12 1.128 0.05 5.64 SquareRootV10 20 0.724 0.974 1.131 1.117 1.099 0.05 6.54 SquareRootV12 22 0.756 1.014 1.145 1.121 1.124 0.06 6.66 SquareRootV13 23 0.734 0.993 1.1 1.154 1.154 0.05 7.70 SquareRootV14 24 0.757 1.01 1.115 1.124 1.132 0.06 7.67 SquareRootV16 25 0.768 1.046 1.174 1.129 1.00 7.70 SquareRootV17 27 0.758 1.022 1.163 1.155 1.121 0.06 1.278 SquareRootV18 28 0.728 1.025 1.164 1.174 1.22 0.06 1.274 SquareRootV19 30 0.721 1.048 1.16 1.171 1.223 0.08 1.232	SquareRootV7	17	1.258	1.799	2.188	2.873	2.024	0.06	6.50
SquareRootV10 20 0.724 0.974 1.131 1.117 1.099 0.05 6.54 SquareRootV12 22 0.753 1.016 1.117 1.116 1.124 0.06 6.66 SquareRootV13 23 0.734 0.993 1.1 1.154 1.154 0.05 7.70 SquareRootV14 24 0.757 1.01 1.115 1.124 1.32 0.06 7.67 SquareRootV16 26 0.744 1.026 1.144 1.22 0.06 1.258 SquareRootV17 27 0.758 1.022 1.63 1.155 1.212 0.06 1.268 SquareRootV17 27 0.758 1.022 1.154 1.174 1.22 0.06 1.274 SquareRootV19 29 0.724 1.015 1.174 1.22 0.06 1.248 SquareRootV21 31 0.781 1.048 1.16 1.171 1.23 0.08 1.23 SquareRootV22<	SquareRootV8	18	0.737	0.974	1.144	1.126	1.149	0.05	6.08
SquareRootV11 21 0.753 1.016 1.117 1.116 1.124 0.06 6.66 SquareRootV12 22 0.756 1.014 1.145 1.121 1.124 0.06 6.71 SquareRootV14 24 0.757 1.01 1.115 1.124 1.132 0.06 7.67 SquareRootV15 25 0.768 1.046 1.177 1.195 1.199 0.05 1.258 SquareRootV16 26 0.744 1.026 1.164 1.174 1.22 0.06 1.76 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 1.278 SquareRootV19 29 0.724 1.015 1.271 1.249 1.020 1.07 1.248 SquareRootV20 30 0.771 1.048 1.161 1.171 1.223 0.06 1.364 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.	SquareRootV9	19	0.751	0.997	1.145	1.12	1.128	0.05	5.64
SquareRootV12 22 0.756 1.014 1.145 1.121 1.124 0.06 6.71 SquareRootV14 24 0.757 1.01 1.15 1.124 1.154 0.05 7.70 SquareRootV15 25 0.768 1.046 1.177 1.195 1.199 0.05 1.258 SquareRootV17 27 0.758 1.022 1.163 1.155 1.129 0.06 1.076 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 1.278 SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 1.344 SquareRootV20 30 0.771 1.048 1.61 1.171 1.223 0.08 1.232 SquareRootV20 30 0.771 1.048 1.61 1.171 1.223 0.06 1.344 SquareRootV20 30 0.751 1.045 1.15 1.178 1.19 0.07 1.48	SquareRootV10	20	0.724	0.974	1.131	1.117	1.099	0.05	6.54
SquareRootV13 23 0.734 0.993 1.1 1.154 1.154 0.05 7.70 SquareRootV14 24 0.757 1.01 1.115 1.124 1.132 0.06 7.67 SquareRootV16 26 0.744 1.026 1.164 1.174 1.22 0.06 1.258 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 1.278 SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 1.344 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 1.232 SquareRootV20 30 0.771 1.048 1.16 1.171 1.220 0.00 1.544 SquareRootV20 30 0.771 1.048 1.16 1.171 1.220 0.00 1.232 SquareRootV20 30 0.751 1.045 1.121 1.224 1.151 1.160 0.07	SquareRootV11	21	0.753	1.016	1.117	1.116	1.124	0.06	6.66
SquareRootV14 24 0.757 1.01 1.115 1.124 1.32 0.06 7.67 SquareRootV15 25 0.768 1.046 1.177 1.195 1.199 0.05 12.58 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 1.278 SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 1.364 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 1.232 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 1.544 SquareRootV22 32 0.735 1.025 1.163 1.164 1.166 0.07 1.645 SquareRootV22 32 0.735 1.025 1.162 1.164 1.160 0.08 1.768 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 1.0	SquareRootV12	22	0.756	1.014	1.145	1.121	1.124	0.06	6.71
SquareRootV16 25 0.768 1.046 1.177 1.195 1.199 0.05 12.58 SquareRootV17 27 0.758 1.022 1.164 1.174 1.22 0.06 1.76 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 1.278 SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 1.644 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 1.232 SquareRootV20 31 0.788 1.045 1.15 1.178 1.19 0.07 1.544 SquareRootV20 32 0.735 1.025 1.167 1.134 1.166 0.07 1.645 SquareRootV20 33 0.728 1.015 1.201 1.22 1.155 0.07 1.783 SquareRootV20 36 0.738 1.034 1.202 1.164 1.008 1.099	SquareRootV13	23	0.734	0.993	1.1	1.154	1.154	0.05	7.70
SquareRootV16 26 0.744 1.026 1.164 1.174 1.22 0.06 10.76 SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 12.78 SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 13.64 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 12.32 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV23 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV23 33 0.728 1.015 1.201 1.22 1.155 0.07 15.44 SquareRootV24 34 0.756 0.987 1.201 1.224 1.16 0.08 17.68 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.9	SquareRootV14	24	0.757	1.01	1.115	1.124	1.132	0.06	7.67
SquareRootV17 27 0.758 1.022 1.163 1.155 1.212 0.06 12.78 SquareRootV18 28 0.728 0.983 1.172 1.209 1.147 0.07 12.74 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 1.364 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV22 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 17.68 SquareRootV26 36 0.783 1.034 1.202 1.186 1.222 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.00 1	SquareRootV15	25	0.768	1.046	1.177	1.195	1.199	0.05	12.58
SquareRootV18 28 0.728 0.983 1.172 1.209 1.447 0.07 1.274 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.06 13.64 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV22 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV23 33 0.728 1.015 1.221 1.155 0.07 15.44 SquareRootV23 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV24 34 0.756 0.987 1.201 1.224 1.16 0.08 17.68 SquareRootV27 37 0.745 1.03 1.247 1.25 1.226 0.09 19.90 SquareRootV27 37 0.745 1.047 1.220 1.186 1.226 0.09 22.55	SquareRootV16	26	0.744	1.026	1.164	1.174	1.22	0.06	10.76
SquareRootV19 29 0.724 1.015 1.27 1.249 1.282 0.06 13.64 SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 12.32 SquareRootV21 31 0.788 1.045 1.15 1.178 1.16 0.07 15.74 SquareRootV23 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.00 19.90 SquareRootV27 37 0.745 1.03 1.241 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.242 1.266 1.24 1.24 1.24		27	0.758	1.022	1.163		1.212	0.06	12.78
SquareRootV20 30 0.771 1.048 1.16 1.171 1.223 0.08 12.32 SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV23 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.18 1.226 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.01 19.72 SquareRootV28 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.248 1.266 1.23 1.249 1.2	SquareRootV18	28	0.728	0.983	1.172	1.209	1.147	0.07	12.74
SquareRootV21 31 0.788 1.045 1.15 1.178 1.19 0.07 15.74 SquareRootV22 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.222 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.0 19.90 SquareRootV28 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.241 1.255 1.249 0.09 22.69 SquareRootV31 41 0.737 1.021 1.241 1.257 1.247 0.09 22	SquareRootV19	29	0.724	1.015	1.27	1.249		0.06	13.64
SquareRootV22 32 0.735 1.025 1.167 1.134 1.166 0.07 16.45 SquareRootV24 34 0.756 0.987 1.201 1.22 1.155 0.07 17.83 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.72 SquareRootV28 38 0.743 1.01 1.244 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV33 43 0.751 1.043 1.226 1.237 1.257 0.10	_	30	0.771	1.048	1.16	1.171	1.223	0.08	12.32
SquareRootV24 34 0.728 1.015 1.201 1.22 1.155 0.07 17.83 SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.72 SquareRootV29 39 0.751 1.047 1.203 1.222 1.249 0.09 22.69 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 22.69 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10	SquareRootV21	31	0.788	1.045	1.15	1.178	1.19	0.07	15.74
SquareRootV24 34 0.756 0.987 1.209 1.224 1.16 0.08 17.68 SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV28 38 0.745 1.03 1.247 1.25 1.222 0.00 19.72 SquareRootV29 39 0.751 1.047 1.203 1.222 1.249 0.09 22.69 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 22.86 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.241 1.257 1.257 0.10 23.35 SquareRootV32 42 0.743 1.062 1.241 1.257 1.257 0.10 <td< td=""><td>SquareRootV22</td><td>32</td><td>0.735</td><td>1.025</td><td>1.167</td><td>1.134</td><td>1.166</td><td> 0.07 </td><td>16.45</td></td<>	SquareRootV22	32	0.735	1.025	1.167	1.134	1.166	0.07	16.45
SquareRootV25 35 0.742 0.981 1.163 1.206 1.194 0.08 20.99 SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.72 SquareRootV29 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 22.69 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.19 SquareRootV34 44 0.761 1.033 1.216 1.242 1.260 0.10	SquareRootV23	33	0.728	1.015	1.201	1.22	1.155	0.07	17.83
SquareRootV26 36 0.738 1.034 1.202 1.186 1.226 0.09 19.90 SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.72 SquareRootV29 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.19 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.291 0.11	SquareRootV24		0.756	0.987	1.209		1.16	0.08	17.68
SquareRootV27 37 0.745 1.03 1.247 1.25 1.222 0.10 19.72 SquareRootV28 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.51 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.033 1.227 1.297 1.199 0.11	SquareRootV25	35	0.742	0.981	1.163	1.206	1.194	0.08	20.99
SquareRootV28 38 0.743 1.01 1.214 1.246 1.243 0.09 22.55 SquareRootV39 39 0.751 1.047 1.203 1.222 1.249 0.09 22.69 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV34 44 0.761 1.033 1.216 1.242 1.269 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV37 47 0.754 1.036 1.227 1.297 1.199 0.11 <t< td=""><td>SquareRootV26</td><td></td><td>0.738</td><td>1.034</td><td>1.202</td><td>1.186</td><td>1.226</td><td>0.09</td><td>19.90</td></t<>	SquareRootV26		0.738	1.034	1.202	1.186	1.226	0.09	19.90
SquareRootV29 39 0.751 1.047 1.203 1.222 1.249 0.09 22.69 SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.51 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV37 47 0.754 1.036 1.23 1.297 1.199 0.11 30.27 SquareRootV38 48 0.758 1.05 1.238 1.266 1.265 0.10 <td< td=""><td>_</td><td>1</td><td>I</td><td>l</td><td></td><td></td><td></td><td></td><td></td></td<>	_	1	I	l					
SquareRootV30 40 0.765 1.048 1.248 1.266 1.28 0.09 23.35 SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV34 44 0.761 1.033 1.216 1.242 1.269 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.269 1.277 0.11 29.90 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 <td< td=""><td>SquareRootV28</td><td>38</td><td>0.743</td><td>1.01</td><td>1.214</td><td>1.246</td><td>1.243</td><td>0.09</td><td>22.55</td></td<>	SquareRootV28	38	0.743	1.01	1.214	1.246	1.243	0.09	22.55
SquareRootV31 41 0.737 1.021 1.241 1.255 1.247 0.09 22.86 SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.51 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.751 1.05 1.284 1.266 1.265 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 <t< td=""><td>SquareRootV29</td><td>39</td><td>0.751</td><td>1.047</td><td>1.203</td><td>1.222</td><td>1.249</td><td>0.09</td><td>22.69</td></t<>	SquareRootV29	39	0.751	1.047	1.203	1.222	1.249	0.09	22.69
SquareRootV32 42 0.743 1.062 1.24 1.257 1.257 0.10 23.64 SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.51 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.284 1.266 1.265 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 <t< td=""><td>-</td><td>40</td><td>0.765</td><td>1.048</td><td>1.248</td><td></td><td>1.28</td><td>0.09</td><td>23.35</td></t<>	-	40	0.765	1.048	1.248		1.28	0.09	23.35
SquareRootV33 43 0.751 1.043 1.226 1.237 1.269 0.10 27.51 SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 <td< td=""><td>SquareRootV31</td><td>41</td><td>0.737</td><td></td><td>1.241</td><td>1.255</td><td>1.247</td><td>0.09</td><td>22.86</td></td<>	SquareRootV31	41	0.737		1.241	1.255	1.247	0.09	22.86
SquareRootV34 44 0.761 1.033 1.216 1.242 1.286 0.10 27.19 SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV39 49 0.751 1.05 1.284 1.266 1.265 0.10 36.32 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 <t< td=""><td></td><td></td><td>0.743</td><td>1.062</td><td></td><td>1.257</td><td></td><td></td><td>23.64</td></t<>			0.743	1.062		1.257			23.64
SquareRootV35 45 0.764 1.044 1.231 1.291 1.251 0.10 29.28 SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.99 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 <td< td=""><td></td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		_							
SquareRootV36 46 0.756 1.053 1.227 1.297 1.199 0.11 30.27 SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>27.19</td></td<>									27.19
SquareRootV37 47 0.754 1.036 1.23 1.269 1.277 0.11 29.90 SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 3		45					1.251	0.10	29.28
SquareRootV38 48 0.758 1.05 1.238 1.246 1.226 0.11 30.00 SquareRootV39 49 0.751 1.05 1.284 1.266 1.265 0.10 36.32 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.24	-								ļ
SquareRootV39 49 0.751 1.05 1.284 1.266 1.265 0.10 36.32 SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 4		_							
SquareRootV40 50 0.769 1.089 1.271 1.291 1.299 0.12 36.16 SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87		_							
SquareRootV41 51 0.727 1.033 1.26 1.267 1.31 0.12 34.46 SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87		_							
SquareRootV42 52 0.741 1.038 1.289 1.302 1.286 0.12 34.09 SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87	=								
SquareRootV43 53 0.763 1.025 1.244 1.225 1.217 0.12 42.99 SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87									
SquareRootV44 54 0.753 1.046 1.272 1.297 1.291 0.12 39.28 SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87									
SquareRootV45 55 0.759 1.074 1.245 1.292 1.336 0.13 38.81 SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87		_							_
SquareRootV46 56 0.76 1.085 1.305 1.26 1.281 0.13 39.42 SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87									
SquareRootV47 57 0.79 1.063 1.259 1.249 1.218 0.13 42.27 SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87									
SquareRootV48 58 0.76 1.013 1.255 1.25 1.275 0.12 42.87		_							
_		_							
SquareKootV49 59 0.783 1.096 1.205 1.305 1.307 0.13 44.93		_							
	SquareKoot V 49	59	0.783	1.096	1.205	1.305	1.307	0.13	44.93

With loops Page 4 Mohammed Bekkouche

SquareRootV50	60	0.741	1.041	1 251	1.265	1 281	0.14	38.22
SquareRootV51	61	0.791	1.112	1.278		1.301	0.13	46.18
SquareRootV52	62	0.752	1.07	1.313		1.321	0.14	44.53
SquareRootV53	63	0.793	1.074	1.3	1.253	1.306	0.15	45.45
SquareRootV54	64	0.775	1.107	1.367		1.368	0.14	47.91
SquareRootV55	65	0.75	1.113	1.411	1.364		0.14	51.55
SquareRootV56	66	0.765		1.349			0.15	50.51
SquareRootV57	67	0.789	1.119		1.411	1.423	0.16	51.83
SquareRootV58	68	0.768	1.111	1.417	1.385	1.417	0.15	53.82
SquareRootV59	69	0.792	1.077	1.356	1.318	1.292	0.15	56.22
SquareRootV60	70	0.778	1.118	1.417	1.424	1.408	0.15	55.15
SquareRootV61	71	0.774	1.094	1.353	1.418	1.378	0.16	56.52
SquareRootV62	72	0.788	1.103	1.305	1.353	1.31	0.15	56.00
SquareRootV63	73	0.781	1.122	1.383	1.463	1.404	0.18	55.55
SquareRootV64	74	0.756	1.03	1.355	1.4	1.401	0.18	57.12
SquareRootV65	75	0.81	1.118	1.297	1.379	1.297	0.15	59.67
SquareRootV66	76	0.744	1.042	1.417	1.433	1.443	0.18	53.98
SquareRootV67	77	0.789	1.129	1.412	1.408	1.361	0.19	57.38
SquareRootV68	78	0.789	1.126	1.393	1.37	1.361	0.20	56.68
SquareRootV69	79	0.764	1.102	1.352	1.367	1.391	0.19	57.75
SquareRootV70	80	0.769	1.114	1.407	1.424	1.386	0.19	57.09
SquareRootV71	81	0.81	1.149	1.439	1.463	1.545	0.19	69.00
SquareRootV72	82	0.777	1.071	1.36	1.369	1.293	0.19	64.40
SquareRootV73	83	0.784	1.137	1.446	1.472	1.427	0.20	67.80
SquareRootV74	84	0.785	1.093	1.369	1.335	1.376	0.20	67.25
SquareRootV75	85	0.818	1.158	1.41	1.364	1.373	0.20	65.55
SquareRootV76	86	0.799	1.155	1.478	1.434	1.487	0.21	69.78
SquareRootV77	87	0.788	1.152	1.388		1.576	0.21	68.32
SquareRootV78	88	0.795	1.156	1.452	1.476	1.494	0.22	68.66
SquareRootV79	89	0.767	1.12	1.475	1.444	1.518	0.20	67.41
SquareRootV80	90	0.744	1.085	1.454			0.22	64.94
SquareRootV81	91	0.794	1.081	1.433	1.356	1.374	0.22	70.76
SquareRootV82	92	0.763			1.406		0.21	66.88
SquareRootV83	93	0.763	1.082		1.447	1.397	0.24	70.20
SquareRootV84	94	0.766	1.123	1.465	1.478	1.41	0.22	66.38
SquareRootV85	95	0.747	1.09	1.463			0.23	66.82
SquareRootV86	96	0.743		1.447	1.47	1.437	0.23	65.36
SquareRootV87	97	0.751	1.035	1.424		1.425	0.22	70.84
SquareRootV88	98	0.784	1.135		1.503		0.24	72.02
SquareRootV89	99	0.78	1.094		1.498			71.42
SquareRootV90	100	0.791	1.168	1.605	1.616	1.613	0.24	80.81

Table 3 – Computation time for the benchmark Square Root

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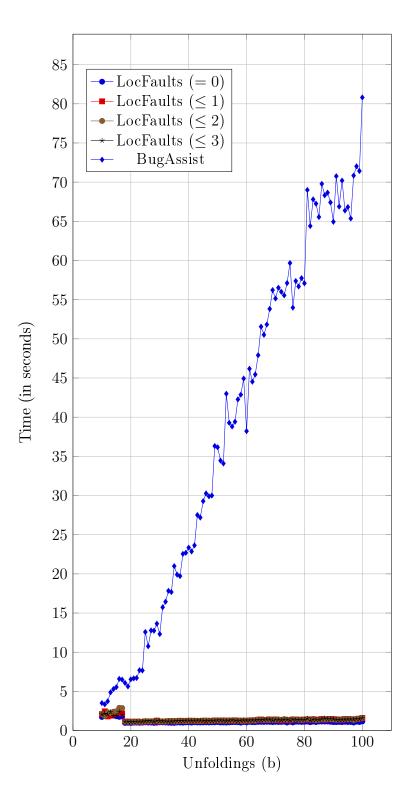


FIGURE 3 - Comparison of the evolution of times of different versions of LocFaults and BugAssist for the benchmark SquareRoot, by increasing the unwinding loop limit.

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