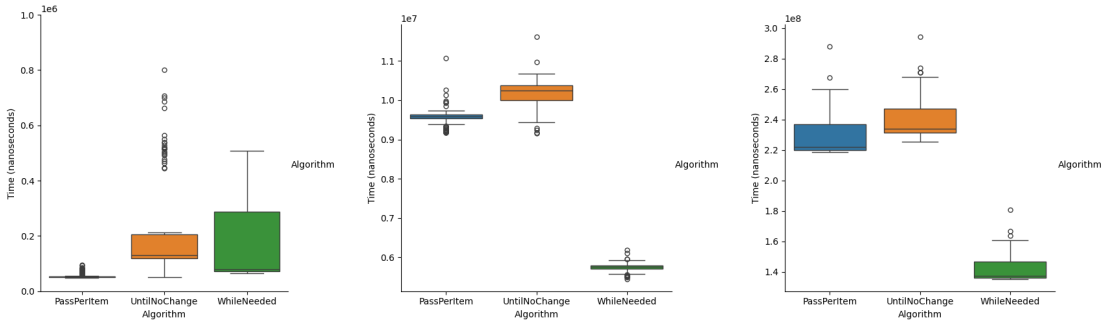
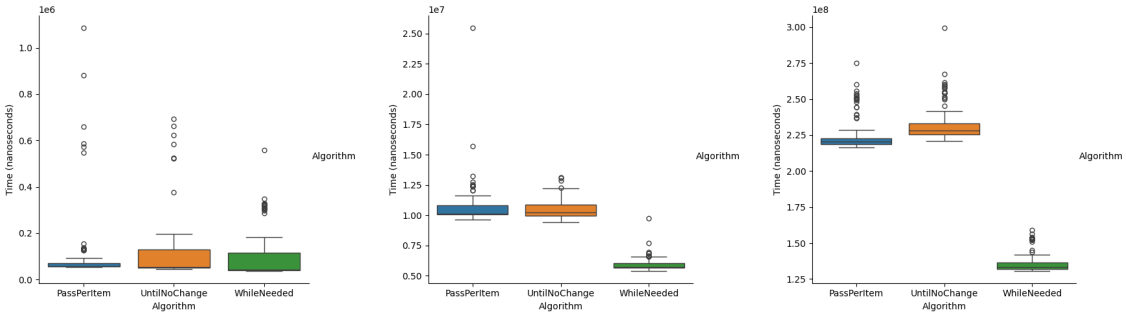


(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 1: Time to sort array of random Integers



(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 2: Time to sort random array of Bytes

Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	49.85	50.07	50.31	50.82	87.38
100	UntilNoChange	56.74	56.92	57.06	57.45	103.16
100	WhileNeeded	33.44	33.50	33.59	33.78	69.36
1000	PassPerItem	9606.17	9640.39	9665.68	9751.96	31493.50
1000	UntilNoChange	9548.54	9562.60	9575.98	9774.66	31540.57
1000	WhileNeeded	5481.91	5497.36	5507.04	5569.73	17908.92
5000	PassPerItem	208339.31	210349.57	212377.40	219466.91	263363.72
5000	UntilNoChange	210984.56	211619.51	214544.31	227371.03	298996.13
5000	WhileNeeded	122377.71	122787.50	124621.14	132163.16	173597.92

Table 1: Performance Metrics for arrays of Descending Integers (in microseconds)

Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	58.54	58.77	58.96	59.42	99.76
100	UntilNoChange	57.71	58.16	58.32	58.76	104.34
100	WhileNeeded	42.91	43.02	43.13	43.43	75.81
1000	PassPerItem	9548.90	9708.79	9747.38	9877.97	17988.70
1000	UntilNoChange	9859.16	10082.39	10124.00	10387.20	17207.29
1000	WhileNeeded	5687.05	5857.50	5881.01	5975.96	14572.42
5000	PassPerItem	205850.43	209231.70	211795.54	214074.12	241904.37
5000	UntilNoChange	215364.05	216803.60	219137.71	222237.53	249848.90
5000	WhileNeeded	123721.80	125714.37	126542.95	129139.10	151971.81

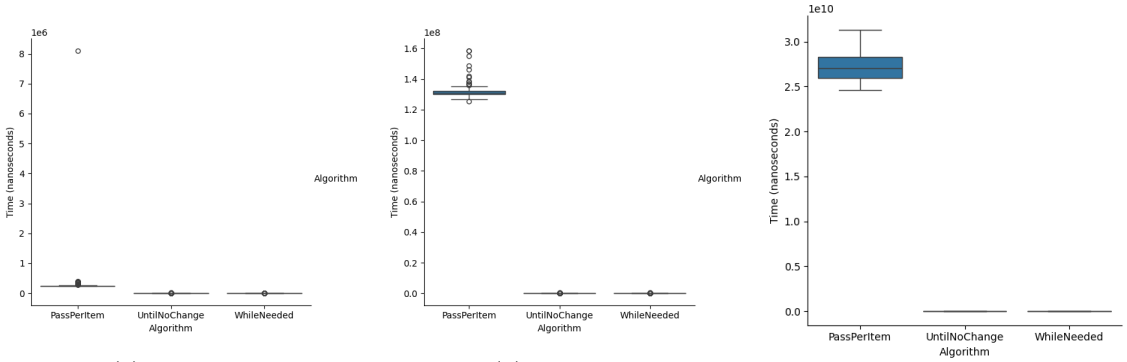
Table 2: Performance Metrics for arrays of Descending Bytes(in microseconds)

Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	250.51	260.69	262.30	264.39	361.71
100	UntilNoChange	252.84	264.19	265.84	268.57	300.53
100	WhileNeeded	121.71	126.99	127.92	129.11	158.24
1000	PassPerItem	117837.06	119357.54	121274.97	123099.46	143828.36
1000	UntilNoChange	117809.62	119980.49	121655.67	123569.40	140236.91
1000	WhileNeeded	45292.69	45868.37	46430.09	47424.17	57093.29
5000	PassPerItem	25781857.71	26383544.20	26828103.50	27380123.07	29426932.85
5000	UntilNoChange	25842208.87	26413720.27	26818579.97	27416407.67	29207443.63
5000	WhileNeeded	8228578.19	8406592.12	8543826.54	8635735.72	9775953.45

Table 3: Performance Metrics for arrays of Descending Strings(in microseconds)

Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	31.47	31.64	31.71	31.84	47.30
100	UntilNoChange	0.46	0.51	0.53	0.55	1.28
100	WhileNeeded	0.42	0.47	0.49	0.50	1.05
1000	PassPerItem	7913.74	7981.70	8007.96	8041.87	8261.34
1000	UntilNoChange	8.72	8.83	8.95	9.11	13.34
1000	WhileNeeded	8.60	8.72	8.78	8.97	10.79
5000	PassPerItem	172160.11	172462.95	175633.39	179902.05	223133.42
5000	UntilNoChange	37.61	37.76	37.99	39.33	46.91
5000	WhileNeeded	37.06	37.18	37.39	38.58	69.91

Table 4: Performance Metrics for array of Ascending Integers (in microseconds)



(a) Size: 100 (b) Size 1000 (c) Size 5000

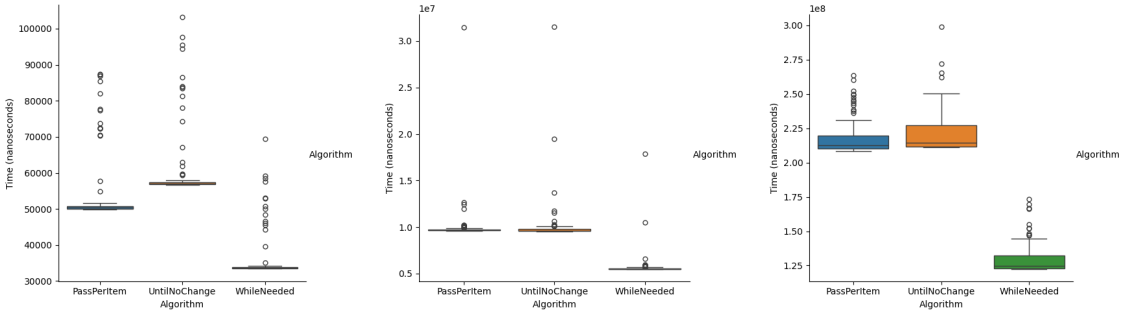
Figure 3: Time to sort random array of String

Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	33.12	33.17	33.22	39.41	61.92
100	UntilNoChange	0.39	0.41	0.44	0.65	1.10
100	WhileNeeded	0.42	0.46	0.50	0.65	1.09
1000	PassPerItem	7829.75	7881.66	7900.80	8243.30	14010.38
1000	UntilNoChange	8.63	8.81	8.91	9.25	16.23
1000	WhileNeeded	8.51	8.67	8.79	9.12	16.05
5000	PassPerItem	170007.62	171708.70	173837.23	179121.64	200752.12
5000	UntilNoChange	36.90	37.19	38.38	39.96	43.44
5000	WhileNeeded	36.48	36.74	37.92	39.49	44.25

Table 5: Performance Metrics for array of Ascending Bytes (in microseconds)

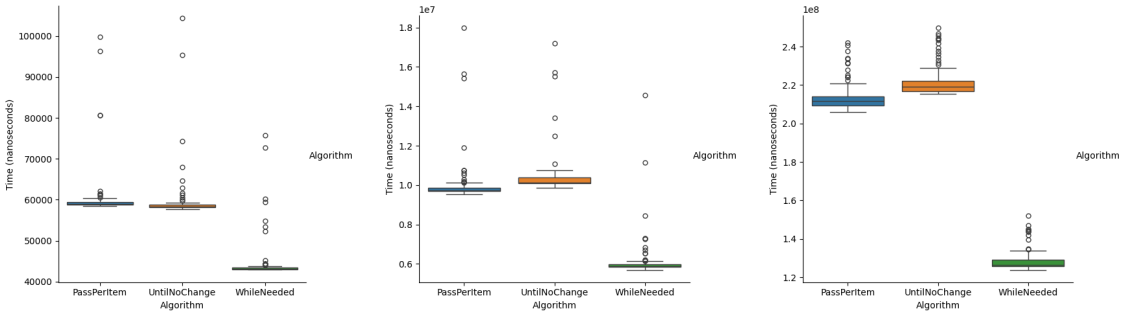
Size	Algorithm	Minimum	First Quartile	Median	Third Quartile	Maximum
100	PassPerItem	2344.88	2370.67	2390.62	2451.50	3925.87
100	UntilNoChange	2.70	2.78	2.84	3.01	5.40
100	WhileNeeded	2.66	2.73	2.78	2.89	5.44
1000	PassPerItem	110443.20	113969.67	116479.11	126305.95	150915.52
1000	UntilNoChange	1115.18	1148.30	1188.21	1301.90	1387.19
1000	WhileNeeded	1116.18	1148.61	1179.82	1278.60	1837.99
5000	PassPerItem	24684319.39	25299065.33	25882470.86	26998749.87	30100566.89
5000	UntilNoChange	4821.40	5035.65	5165.47	5373.65	6121.47
5000	WhileNeeded	4843.33	5020.98	5167.28	5404.01	5865.17

Table 6: Performance Metrics for arrays of Ascending Strings (in microseconds)



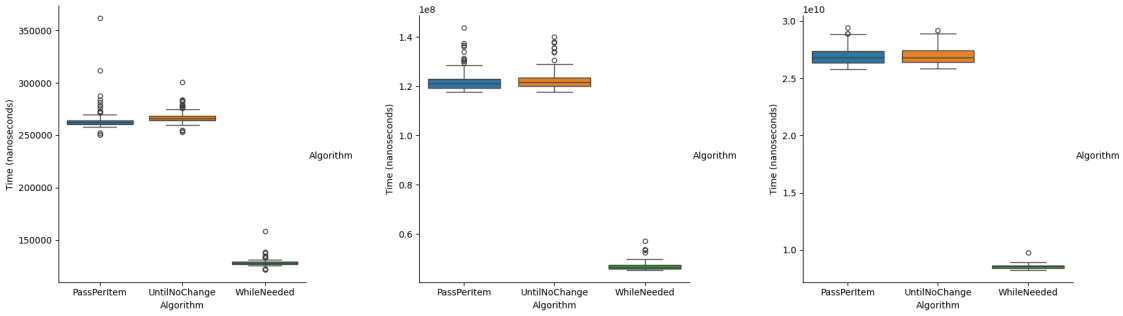
(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 4: Time to sort descending arrays of Integers



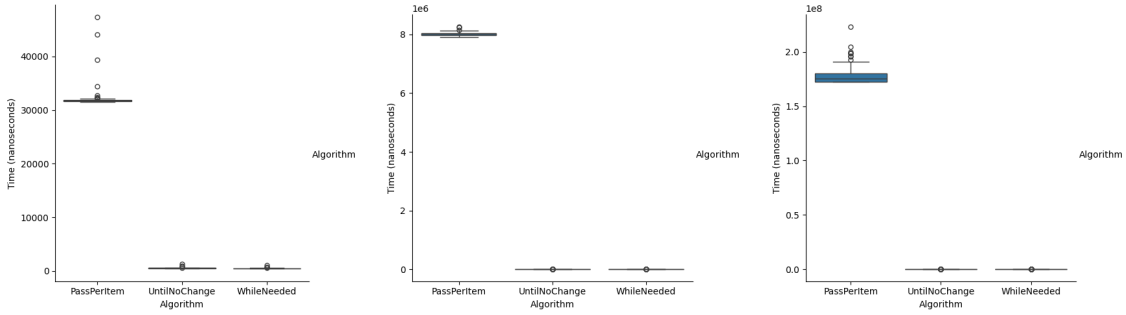
(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 5: Time to sort descending array of Bytes



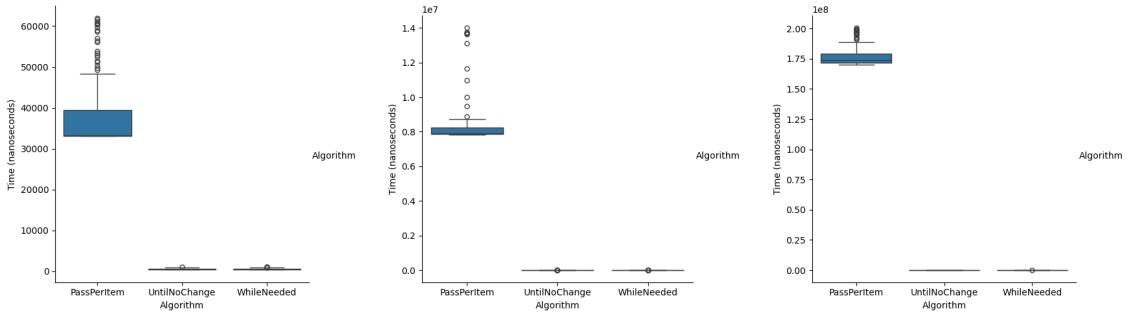
(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 6: Time to sort descending array of String



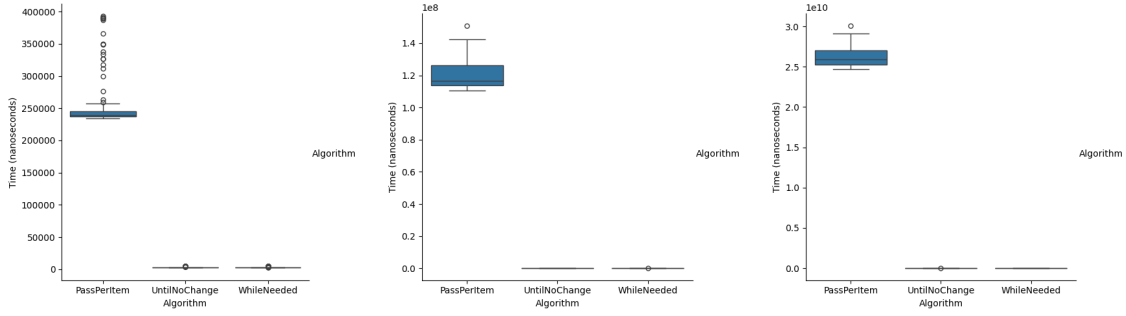
(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 7: Time to sort ascending of random Integers



(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 8: Time to sort ascending array of Bytes



(a) Size: 100 (b) Size 1000 (c) Size 5000

Figure 9: Time to sort ascending array of String