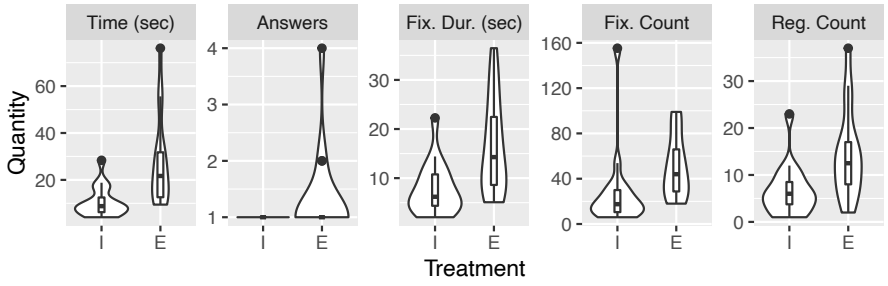
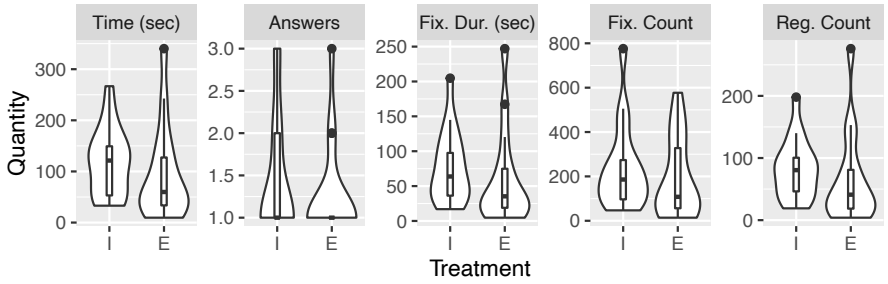
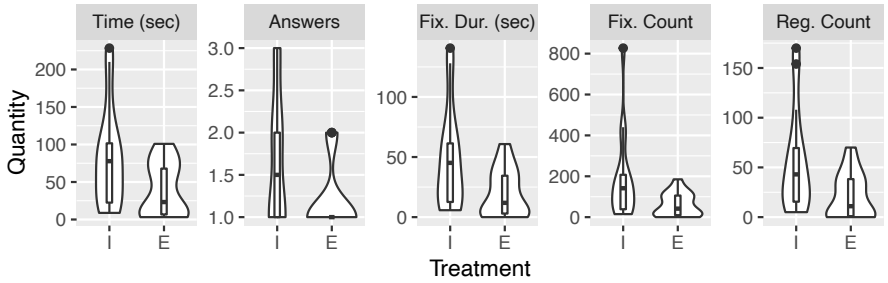


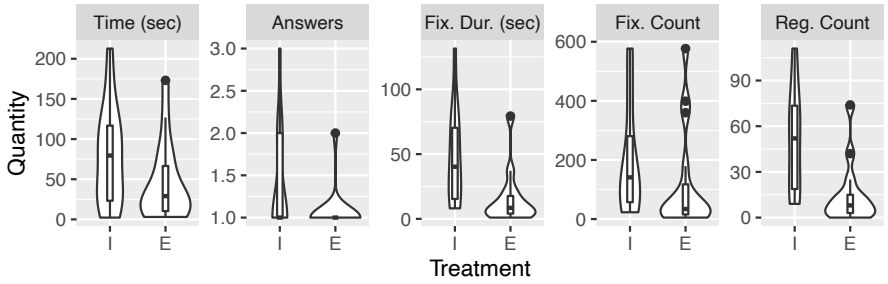
(a) Data distribution of metrics for task to sum numbers.



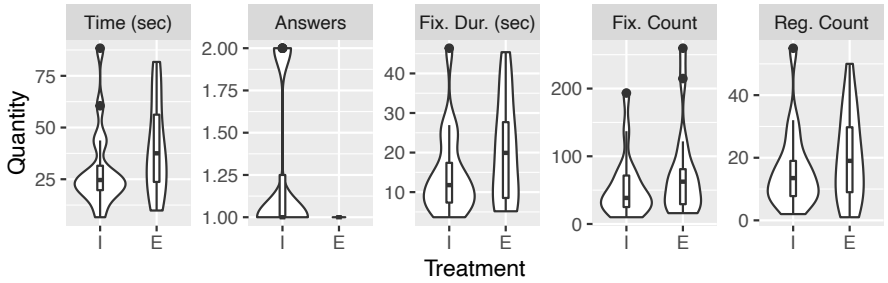
(b) Data distribution of metrics for task to calculate next prime.



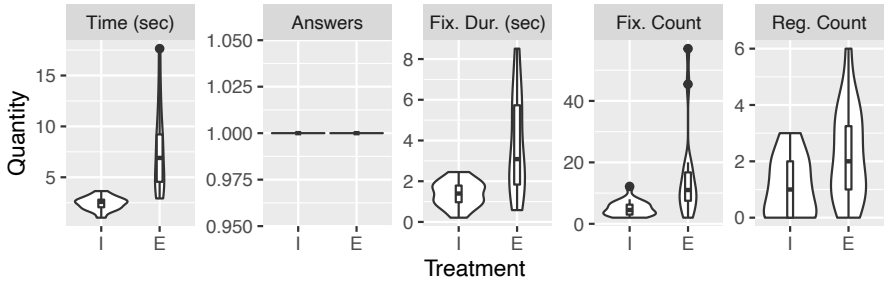
(c) Data distribution of metrics for task to return the highest grade.



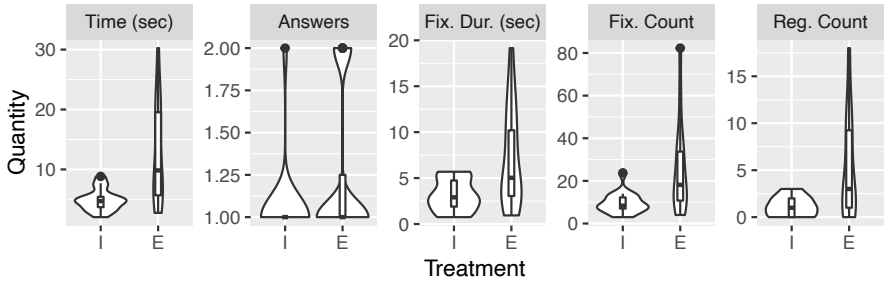
(d) Data distribution of metrics for task to calculate the factorial.



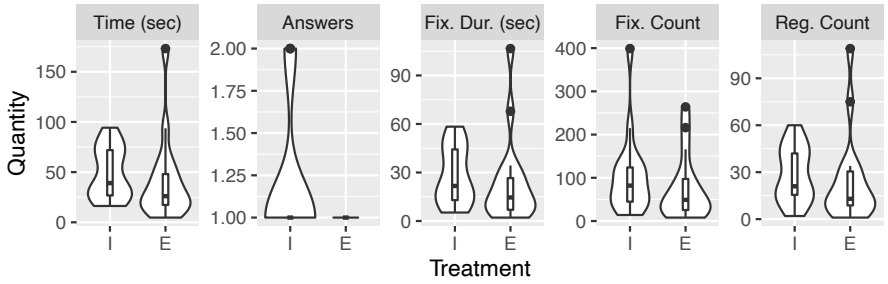
(e) Data distribution of metrics for task to count multiples of three.



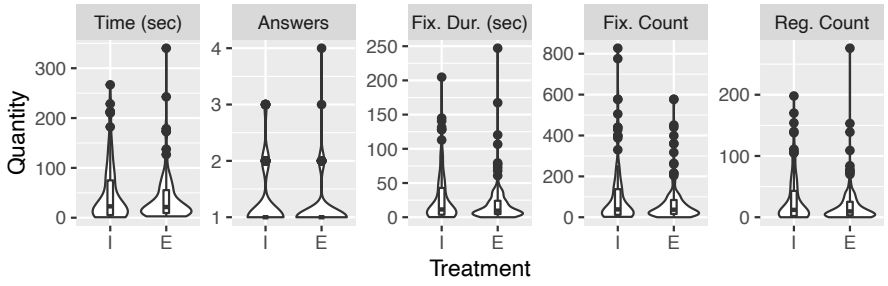
(f) Data distribution of metrics for task to calculate the area of the square.



(g) Data distribution of metrics for task to check if a number is even.



(h) Data distribution of metrics for task to compute the number of digits.



(i) Data distribution of metrics comparing inline and extracted method of all tasks together.

Fig. 30: Summary of the the data distribution by tasks. I = Inlined method version; E = Extracted method version.

Table 7:
Results for **time spent in AOI and in Code** (RQ_1). I = Inline Method; E = Extract Method; PD = percentage difference; PV = p-value after FRD correction; ES = Cliff's Delta effect size; SW = Shapiro-Wilk; SP = Shapiro p-value; IQR = Interquartile Range; SD = Standard Deviation. Columns I and E are based on the median as a measure of central tendency. The All Programs row provides a comparison of all values between the Inline and Extracted methods.

Tasks	**In AOI**											**In Code**										
	I sec	E sec	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP	I sec	E sec	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP
Sum Numbers	8.8	21.6	↑146.2	6.2	6.5	19.1	19.3	**0.0009**	0.75	0.77	1.34e-05	15.9	30.9	↑93.9	10.0	12.4	23.8	31.1	**0.02**	0.57	0.71	1.29e-06
Next Prime	121.2	53.9	↓55.5	96.1	66.7	93.7	92.2	0.10	n/a	0.90	6.00e-03	132.6	61.6	↓53.5	113.8	78.0	105.8	99.7	0.10	n/a	0.90	6.35e-03
Highest Grade	77.7	23.7	↓70.0	79.0	66.7	61.1	36.0	**0.02**	-0.50	0.86	6.68e-04	92.6	32.3	↓65.0	93.3	77.5	68.3	45.4	0.14	n/a	0.86	7.83e-04
Factorial	62.2	13.1	↓78.8	93.6	60.6	56.1	49.0	**0.04**	-0.47	0.83	1.86e-04	81.3	22.1	↓72.8	103.0	60.6	61.4	43.1	**0.02**	-0.51	0.85	4.34e-04
Multiples of Three	24.6	37.5	↑52.4	11.8	20.2	32.5	22.6	0.24	n/a	0.89	3.23e-03	39.2	49.0	↑24.9	17.9	27.0	39.9	33.7	0.22	n/a	0.88	2.02e-03
Area of Square	2.5	6.9	↑166.9	0.75	0.66	4.6	4.2	**0.00000**	0.93	0.80	3.49e-05	7.7	14.9	↑94.4	3.3	2.6	11.3	6.8	**0.02**	0.53	0.86	8.23e-04
Check If Even	4.7	9.8	↑108.4	1.7	1.8	13.8	8.2	**0.005**	0.66	0.78	1.60e-05	28.3	36.3	↑28.3	12.2	8.4	20.8	18.4	0.06	0.42	0.94	6.78e-02
Number of Digits	34.5	26.0	↓24.7	45.2	25.4	30.7	42.0	0.25	n/a	0.84	3.19e-04	66.4	38.2	↓42.4	48.6	37.2	42.1	56.8	0.17	n/a	0.87	9.92e-04
All Programs	127.5	111.2	↓12.8	69.6	56.8	46.0	48.8	0.24	n/a	0.97	0.27	191.8	177.5	↓7.4	75.6	62.1	50.2	54.1	0.19	n/a	0.98	0.40

Table 8:
Results for **number of attempts of the answers** (RQ_2). I = Inline Method; E = Extract Method; PD = percentage difference; PV = p-value after FDR correction; ES = Cliff's Delta effect size; SW = Shapiro-Wilk; SP = Shapiro p-value; IQR = Interquartile Range; SD = Standard Deviation. Columns I and E are based on the mean as a measure of central tendency. The All Programs row compares the average number of attempts across all programs between the Inline and Extracted methods.

Tasks	**Attempts**										
	I	E	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP
Sum Numbers	1.00	1.31	↑31.2	0	0	0	0.79	0.98	n/a	0.31	3.47e-11
Next Prime	1.44	1.44	0.0	1.0	0.72	0	0.57	n/a	n/a	n/a	n/a
Highest Grade	1.81	1.19	↓34.4	1.0	0.79	0	0.40	0.05	-0.42	0.69	5.69e-7
Factorial	1.56	1.31	↓16.0	1.0	0.61	0	0.25	0.30	n/a	0.61	5.34e-8
Multiples of Three	1.25	1.00	↓20.0	0.25	0.44	0	0	0.05	-0.25	0.39	2.01e-10
Area of Square	1.00	1.00	0.0	0	0	0	0	n/a	n/a	n/a	n/a
Check If Even	1.06	1.25	↑17.6	0	0.25	0.25	0.44	0.17	n/a	0.44	5.80e-10
Number of Digits	1.31	1.00	↓23.8	0	0.40	0	0	0.05	-0.25	0.40	2.48e-10
All Programs	5.2	4.7	↓8.9	0	0.53	0	0.42	0.05	-0.27	0.63	2.60e-11

Table 9:
Results for **fixations count in AOI and in Code** (RQ_4). I = Inline Method; E = Extract Method; PD = percentage difference; PV = p-value after FDR correction; ES = Cliff's Delta effect size; SW = Shapiro-Wilk; SP = Shapiro p-value; IQR = Interquartile Range; SD = Standard Deviation. Columns I and E are based on the median as a measure of central tendency. The All Programs row compares the median fixations count across all programs between the Inline and Extracted methods.

Tasks	**In AOI**											**In Code**										
	I	E	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP	I	E	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP
Sum Numbers	17.5	44.0	↑151.43	19.5	36.0	37.1	27.2	0.005	0.62	0.98	0.95	23.5	47.5	↑102.1	17.7	20.6	45.5	35.7	**0.003**	0.56	0.97	0.58
Next Prime	186.0	108.0	↓41.9	177.2	196.9	271.4	180.4	0.19	n/a	0.97	0.55	191.5	111.0	↓42.0	161.0	120.2	178.7	170.5	0.17	n/a	0.97	0.42
Highest Grade	141.5	45.6	↓67.7	168.5	211.0	96.0	57.3	**0.02**	-0.53	0.90	0.01	166.0	50.0	↓69.8	176.2	128.1	113.0	65.5	**0.010**	-0.51	0.94	0.10
Factorial	141.0	34.0	↓75.8	223.6	189.1	101.93	172.5	**0.04**	-0.44	0.96	0.27	156.0	40.0	↓74.3	128.2	104.1	61.2	168.5	**0.02**	-0.40	0.97	0.77
Multiples of Three	38.5	62.5	↑62.3	46.5	48.4	51.7	70.0	0.33	n/a	0.97	0.67	47.5	80.5	↑69.4	44.2	40.7	65.5	49.5	0.26	n/a	0.97	0.56
Area of Square	4.6	11.0	↑138.8	3.2	2.5	9.2	15.1	0.005	0.59	0.95	0.14	12.0	20.0	↑66.6	6.0	5.5	16.5	11.1	0.07	n/a	0.94	0.12
Check If Even	8.5	20.1	↑137.1	5.2	5.0	23.0	21.2	0.005	0.58	0.97	0.51	39.0	56.5	↑44.8	24.0	17.9	35.5	31.1	**0.04**	0.42	0.98	0.83
Number of Digits	96.4	49.0	↓49.2	79.2	94.0	71.8	76.2	0.19	n/a	0.98	0.96	99.0	49.0	↓50.5	94.2	103.8	64.2	77.0	0.06	n/a	0.98	0.86
All Programs	252.0	189.5	↓24.8	125.7	152.7	68.4	109.2	0.26	n/a	0.98	0.64	288.0	282.5	↓1.9	124.5	106.0	76.2	102.3	0.24	n/a	0.98	0.44

Table 10:
Results for **fixation duration in AOI and in Code** (RQ_3). I = Inline Method; E = Extract Method; PD = percentage difference; PV = p-value after FDR correction; ES = Cliff's Delta effect size; SW = Shapiro-Wilk; SP = Shapiro p-value; IQR = Interquartile Range; SD = Standard Deviation. Columns I and E are based on the median as a measure of central tendency. The All Programs row compares the median fixation duration across all programs between the Inline and Extracted methods.

Tasks	**In AOI**											**In Code**										
	I sec	E sec	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP	I sec	E sec	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP
Sum Numbers	6.2	14.2	↑130.1	6.4	5.2	13.8	9.7	**0.01**	0.60	0.87	1.26e-03	8.7	18.4	↑110.5	7.5	7.7	16.2	11.7	**0.03**	0.53	0.86	5.76e-04
Next Prime	63.7	35.3	↓44.5	61.3	51.3	56.0	69.2	0.14	n/a	0.87	1.10e-03	65.6	30.2	↓53.9	68.8	54.9	74.2	71.3	**0.07**	-0.39	0.87	9.45e-04
Highest Grade	45.1	11.8	↓73.6	48.7	42.5	31.5	19.9	**0.03**	-0.42	0.83	5.21e-04	47.1	16.3	↓65.8	68.4	59.7	38.0	22.5	**0.07**	-0.53	0.84	3.09e-04
Factorial	40.2	8.4	↓78.9	54.9	36.1	13.6	21.6	**0.01**	-0.64	0.83	1.57e-04	46.0	11.7	↓74.5	61.7	59.9	40.5	74.0	**0.07**	-0.51	0.86	5.35e-04
Multiples of Three	11.7	19.9	↑69.1	10.0	11.0	19.1	13.2	0.38	n/a	0.88	1.63e-03	18.1	28.9	↑60.0	14.8	13.9	26.1	18.7	0.30	n/a	0.89	2.98e-03
Area of Square	1.4	3.0	↑121.1	0.8	0.6	3.8	2.4	**0.01**	0.65	0.82	9.27e-05	4.1	6.5	↑59.8	1.5	1.5	6.5	4.0	0.12	n/a	0.92	1.54e-02
Check If Even	2.9	5.0	↑73.1	2.8	1.7	7.1	5.4	**0.06**	0.46	0.81	6.55e-05	14.5	19.6	↑35.1	10.4	6.8	14.9	11.0	0.09	n/a	0.94	1.07e-01
Number of Digits	21.6	14.5	↓32.7	31.3	17.7	19.6	27.4	0.23	n/a	0.83	2.75e-04	40.5	17.8	↓55.9	44.0	37.1	29.4	33.1	**0.07**	-0.38	0.88	2.14e-03
All Programs	70.9	59.2	↓16.4	39.1	37.1	19.4	32.0	0.21	n/a	0.97	0.21	102.4	84.5	↓17.4	45.9	47.4	27.4	43.0	0.12	n/a	0.97	0.13

Table 11:
Results for **regressions count in AOI and in Code** (RQ_5). I = Inline Method; E = Extract Method; PD = percentage difference; PV = p-value after FDR correction; ES = Cliff's Delta effect size; SW = Shapiro-Wilk; SP = Shapiro p-value; IQR = Interquartile Range; SD = Standard Deviation. Columns I and E are based on the median as a measure of central tendency. The All Programs row compares the median regressions count across all programs between the Inline and Extracted methods.

Tasks	**In AOI**											**In Code**										
	I	E	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP	I	E	PD %	I IQR	I SD	E IQR	E SD	PV	ES	SW	SP
Sum Numbers	6.0	12.5	↑108.3	4.7	5.4	9.0	9.6	**0.03**	0.57	0.87	0.0012	9.5	18.0	↑89.4	10.0	10.8	15.0	16.1	**0.03**	0.52	0.81	7.14e-05
Next Prime	80.5	41.0	↓49.0	54.2	47.8	62.5	74.3	0.12	n/a	0.88	0.0024	84.5	44.0	↓47.9	64.5	55.9	64.5	72.7	0.12	n/a	0.88	0.0024
Highest Grade	43.0	11.0	↓74.4	54.0	51.6	37.2	23.0	**0.03**	-0.50	0.80	5.59e-05	75.0	19.0	↓74.6	68.2	60.0	44.5	29.2	**0.03**	-0.53	0.84	0.0003
Factorial	52.0	8.0	↓84.6	54.7	34.4	12.0	21.0	**0.03**	-0.67	0.86	0.0017	70.5	15.5	↓78.0	53.7	36.1	43.0	36.0	**0.03**	-0.49	0.90	0.0064
Multiples of Three	13.5	19.0	↑40.7	11.2	13.1	20.7	14.4	0.41	n/a	0.91	0.0088	21.5	28.5	↑32.5	18.2	18.5	33.5	24.8	0.53	n/a	0.95	0.1474
Area of Square	1.0	2.0	↑100.0	2.0	1.0	2.2	1.6	0.11	n/a	0.89	0.0038	5.0	7.0	↑40.0	2.2	2.8	8.5	4.9	0.12	n/a	0.91	0.0177
Check If Even	1.0	3.0	↑200.0	2.0	1.0	8.2	5.4	0.07	0.43	0.91	0.0088	18.5	24.5	↑32.4	10.5	7.6	20.5	15.5	0.15	n/a	0.90	0.0056
Number of Digits	21.0	13.0	↓38.0	26.5	17.5	21.7	28.9	0.15	n/a	0.71	1.45e-06	46.0	21.5	↓53.2	39.5	25.5	29.5	37.1	0.12	n/a	0.84	0.0004
All Programs	75.0	54.0	↓28.0	41.0	39.6	22.2	34.7	0.12	n/a	0.96	0.11	125.5	114.0	↓9.16	56.0	44.8	33.5	38.2	0.12	n/a	0.97	0.12