1 Quantitative Experiment Results

In the following, we provide an extensive look at the different metrics and their values in our experiment. In general, the metrics are averaged between five independent runs. In each run, we generate 72 different designators based on the 72 combinations of the nine actions from Table 1. For each generated action, the reference with the best result for a specific metric is marked in **bold**. For the lines of code (LoC) metric, we indicate whether the generation resulted in an in- (↑) or decrease (↓). Additionally, we state the number of generated designators (out of the five generated) that could be compiled successfully in the *Comp.* column. The first two tables (Table 2 & Table 3) collect the results for the experiment with the `gpt-3.5-turbo-0301` model, the second pair of tables (Table 4 & Table 5) for the `gpt-3.5-turbo-0613` model and the remaining two tables (Table 6 & Table 7) describe the results for the `gpt-4-0613` model.

Table 1: The nine different actions, their abbreviation, their description to be inserted into the prompt, the most fitting WordNet [2] synset and the number of lines of code (LoC) of their designator. The comments in the designators were removed but empty lines added for readability were kept.

Action	Abb.	Description	Synset	LoC
Close	C	Closing an arbitrary container	`close.v.02`	47
Halve	Ha	Cutting an arbitrary (food) object into 2 halves	`halve.v.01`	58
Hold	Ho	Holding an object firmly in its gripper	`hold.v.02`	52
Open	O	Opening a arbitrary container	`open.v.01`	46
Pick-Up	P-U	Picking an object up	`pick_up.v.01`	37
Place-Down	P-D	Placing the held object at a location	`set_down.v.04`	46
Pour	P	Pouring the content of one container into another container	`decant.v.01`	56
Slice	S	Cutting an arbitrary (food) object into one small and one big slice	`slice.v.03`	55
Wipe	W	Cleaning a surface using some kind of towel	`wipe.v.01`	35

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Table 2: First half of the results for the `gpt-3.5-turbo-0301` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
C	Ha	52 ↑	5/5	20.00	02.69	08.55	79.97	73.90	69.73	73.90	95.52	82.18
C	Ho	23 ↓	0/5	**33.33**	**78.39**	14.36	34.91	56.07	37.53	56.07	94.44	54.49
C	O	46 ↓	0/5	**33.33**	72.08	04.53	**97.57**	**93.55**	**89.34**	**93.55**	**98.39**	**97.79**
C	P-U	7 ↓	0/5	25.00	51.54	07.03	02.44	20.98	09.27	20.98	83.76	19.50
C	P-D	11 ↓	0/5	25.00	75.76	05.19	04.13	22.37	09.35	18.30	86.55	23.04
C	P	45 ↓	5/5	25.00	20.33	08.16	76.25	81.77	72.73	76.24	95.16	80.58
C	S	40 ↓	5/5	22.22	38.08	08.87	57.10	71.35	64.64	71.35	94.62	66.73
C	W	33 ↓	5/5	25.00	30.31	**15.59**	82.15	67.08	53.61	67.08	95.93	81.54
Ha	C	47 ↓	0/5	20.00	02.69	08.55	85.95	80.65	68.85	80.65	95.38	86.43
Ha	Ho	47 ↓	0/5	**25.00**	18.63	09.78	81.01	69.83	58.68	66.44	95.00	81.19
Ha	O	45 ↓	0/5	**25.00**	13.74	08.27	87.26	80.22	67.39	79.34	95.28	83.47
Ha	P-U	12 ↓	0/5	20.00	16.82	07.10	22.95	44.00	32.18	42.50	88.60	41.88
Ha	P-D	31 ↓	0/5	20.00	11.31	11.42	60.72	67.35	59.14	66.94	93.89	69.02
Ha	P	53 ↓	5/5	20.00	31.58	07.76	89.24	80.85	74.83	75.53	95.22	89.74
Ha	S	55 ↓	5/5	18.18	37.71	09.35	**99.72**	**98.95**	**98.65**	**98.95**	**99.74**	**99.72**
Ha	W	35 ↓	5/5	20.00	**50.98**	**11.83**	87.06	68.75	54.74	68.75	97.79	86.19
Ho	C	66 ↑	0/5	33.33	**78.39**	14.36	10.59	34.08	19.80	30.96	89.85	33.25
Ho	Ha	35 ↓	5/5	25.00	18.63	09.79	39.98	62.46	57.19	62.46	94.15	54.58
Ho	O	10 ↓	0/5	**50.00**	73.97	10.39	01.52	30.51	20.00	30.51	90.09	19.73
Ho	P-U	20 ↓	0/5	33.33	62.85	06.69	40.06	56.89	44.42	56.89	92.08	53.63
Ho	P-D	8 ↓	5/5	33.33	74.81	**23.49**	00.94	30.16	23.81	30.16	88.05	18.52
Ho	P	39 ↓	5/5	33.33	36.53	11.88	**59.64**	**73.37**	**62.17**	**73.37**	**95.03**	**67.06**
Ho	S	28 ↓	5/5	28.57	36.97	05.13	29.95	65.43	56.09	65.17	93.76	48.55
Ho	W	17 ↓	2/5	33.33	43.97	01.58	34.51	36.85	24.31	33.73	89.75	38.42
O	C	36 ↓	0/5	33.33	72.08	04.53	67.12	80.10	**75.28**	80.10	95.18	77.76
O	Ha	55 ↑	5/5	25.00	13.74	08.27	**86.67**	73.64	69.09	73.64	95.58	**86.16**
O	Ho	33 ↓	0/5	**50.00**	73.97	10.39	57.76	69.82	59.40	68.45	94.95	69.26
O	P-U	9 ↓	0/5	33.33	49.41	03.12	04.68	36.36	23.88	36.36	86.58	23.84
O	P-D	10 ↓	0/5	33.33	**80.67**	12.36	04.38	19.52	07.96	16.28	85.32	23.76
O	P	45 ↓	5/5	33.33	25.42	07.85	76.25	**81.77**	74.13	**81.77**	95.68	80.59
O	S	47 ↑	5/5	28.57	31.94	07.71	71.24	71.91	68.59	71.91	**96.16**	76.09
O	W	18 ↓	5/5	33.33	32.29	**13.93**	31.31	50.40	30.17	48.82	92.87	46.18
P-U	C	39 ↑	0/5	25.00	51.54	07.03	73.80	70.66	58.45	70.66	95.22	72.78
P-U	Ha	37 =	4/5	20.00	16.82	07.10	52.03	67.94	63.80	67.94	94.50	63.17
P-U	Ho	51 ↑	5/5	**33.33**	62.85	06.69	**98.08**	**96.70**	**95.00**	**96.70**	**98.91**	**98.52**
P-U	O	36 ↓	0/5	**33.33**	49.41	03.12	64.17	71.70	61.24	71.70	94.87	65.55

Table 3: Second half of the results for the `gpt-3.5-turbo-0301` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
P-U	P-D	17 ↓	0/5	25.00	**66.61**	**16.94**	15.17	36.88	19.25	36.88	92.65	35.32
P-U	P	40 ↕	5/5	25.00	16.68	07.00	66.46	79.55	73.91	79.55	96.09	74.55
P-U	S	33 ↓	5/5	22.22	44.73	07.44	46.78	74.85	69.60	74.85	94.39	61.01
P-U	W	32 ↓	5/5	25.00	29.69	09.47	80.31	65.37	51.56	65.37	94.98	80.35
P-D	C	30 ↓	0/5	25.00	75.76	05.19	39.46	43.51	26.15	40.85	94.13	49.50
P-D	Ha	51 ↑	0/5	20.00	11.31	11.42	**73.24**	61.17	**56.33**	61.17	94.90	**75.96**
P-D	Ho	43 ↓	0/5	**33.33**	74.81	**23.49**	70.42	67.00	52.70	62.55	94.93	75.47
P-D	O	31 ↓	0/5	**33.33**	**80.67**	12.36	45.31	48.26	29.86	45.68	94.20	53.79
P-D	P-U	29 ↓	0/5	25.00	66.61	16.94	68.98	64.66	51.09	58.65	93.68	72.60
P-D	P	42 ↓	0/5	25.00	29.18	11.33	66.89	**67.39**	52.07	**66.27**	**94.96**	73.08
P-D	S	31 ↓	0/5	22.22	44.27	13.58	41.14	62.18	50.06	60.91	94.20	57.03
P-D	W	13 ↓	5/5	25.00	32.13	22.02	12.19	34.41	21.05	34.41	91.14	34.38
P	C	56 =	0/5	25.00	20.33	08.16	74.94	80.00	64.15	77.95	**95.81**	93.90
P	Ha	63 ↑	5/5	20.00	31.58	07.76	71.90	53.45	42.49	53.45	94.09	79.02
P	Ho	38 ↓	0/5	**33.33**	36.53	**11.88**	51.34	35.42	20.33	31.40	93.03	57.99
P	O	53 ↓	0/5	**33.33**	25.42	07.85	**78.29**	**81.25**	**66.92**	**81.25**	95.70	**94.54**
P	P-U	16 ↓	0/5	25.00	16.68	07.00	20.96	15.39	05.73	15.39	87.90	34.78
P	P-D	12 ↓	0/5	25.00	29.18	11.33	06.04	21.20	08.48	18.05	87.41	22.84
P	S	55 ↓	5/5	22.22	**54.07**	07.72	70.96	50.46	39.42	50.46	94.26	72.48
P	W	36 ↓	5/5	25.00	50.92	09.70	70.51	61.02	46.63	60.69	94.80	81.12
S	C	48 ↓	0/5	22.22	38.08	08.87	90.40	80.00	67.21	80.00	95.62	85.90
S	Ha	58 ↑	5/5	18.18	37.71	09.35	**93.61**	**85.71**	**82.37**	**85.71**	**98.59**	**93.60**
S	Ho	47 ↓	0/5	**28.57**	36.97	05.13	81.99	74.71	66.17	71.26	95.23	82.73
S	O	47 ↓	0/5	**28.57**	31.94	07.71	85.11	78.42	66.62	78.20	95.20	83.20
S	P-U	20	0/5	22.22	44.73	07.44	42.28	50.99	40.20	50.99	90.47	52.95
S	P-D	48 ↓	0/5	22.22	44.27	**13.58**	29.31	46.18	38.69	45.34	90.68	45.26
S	P	53 ↓	5/5	22.22	54.07	07.72	89.34	80.35	75.73	80.35	95.70	89.89
S	W	6 ↓	0/5	22.22	**54.18**	05.04	00.03	10.39	03.74	10.39	85.27	08.93
W	C	51 ↑	0/5	25.00	30.31	15.59	**84.52**	78.69	64.74	77.85	**96.53**	85.31
W	Ha	56 ↑	5/5	20.00	50.98	11.83	78.19	57.69	52.37	57.69	94.74	77.73
W	Ho	63 ↑	0/5	**33.33**	43.97	01.58	77.21	80.41	73.20	80.41	96.12	**91.94**
W	O	51 ↑	0/5	**33.33**	32.29	13.93	82.95	78.78	64.81	78.78	95.76	85.35
W	P-U	35 =	0/5	25.00	29.69	09.47	69.94	55.94	36.45	54.55	94.63	68.95
W	P-D	18 ↓	1/5	25.00	32.13	**22.02**	20.08	19.26	07.95	15.21	87.03	37.77
W	P	53 ↑	5/5	25.00	50.92	09.70	89.24	**80.68**	**76.16**	**80.68**	95.73	89.54
W	S	42 ↑	5/5	22.22	**54.18**	05.04	61.48	68.73	63.90	68.73	94.99	68.17

Table 4: First half of the results for the `gpt-3.5-turbo-0613` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
C	Ha	13 ↓	0/5	20.00	02.69	08.55	00.84	35.71	23.59	35.71	91.24	17.86
C	Ho	41 ↓	0/5	**33.33**	**78.39**	14.36	75.75	83.83	75.20	83.83	96.29	80.43
C	O	46 ↓	0/5	**33.33**	72.08	04.53	**98.61**	**96.77**	**94.26**	**96.77**	**98.73**	**98.73**
C	P-U	8 ↓	0/5	25.00	51.54	07.03	04.44	20.62	07.52	20.62	84.66	23.22
C	P-D	15 ↓	1/5	25.00	75.76	05.19	18.29	30.36	19.72	30.36	87.84	34.65
C	P	4 ↓	0/5	25.00	20.33	08.16	00.00	09.52	02.45	09.52	83.35	04.74
C	S	13 ↓	0/5	22.22	38.08	08.87	01.20	40.98	26.44	40.98	91.77	19.12
C	W	35 ↓	5/5	25.00	30.31	**15.59**	86.74	68.75	54.74	68.75	98.72	86.27
Ha	C	47 ↓	0/5	20.00	02.69	08.55	85.95	80.65	68.85	80.65	95.73	86.43
Ha	Ho	41 ↓	0/5	**25.00**	18.63	09.78	69.89	67.47	56.00	67.47	96.40	74.06
Ha	O	46 ↓	0/5	**25.00**	13.74	08.27	85.91	80.65	68.85	80.65	95.85	86.44
Ha	P-U	33 ↓	0/5	20.00	16.82	07.10	79.13	65.82	51.50	65.82	94.88	79.40
Ha	P-D	32 ↓	0/5	20.00	11.31	11.42	59.77	75.28	70.04	75.28	94.73	67.14
Ha	P	56 ↓	5/5	20.00	31.58	07.76	**93.79**	**82.72**	**79.35**	**82.72**	**98.08**	**94.68**
Ha	S	13 ↓	0/5	18.18	37.71	09.35	00.39	38.66	19.54	36.97	91.07	15.67
Ha	W	35 ↓	5/5	20.00	**50.98**	**11.83**	87.06	69.29	54.74	69.29	97.63	86.15
Ho	C	39 ↓	0/5	33.33	**78.39**	14.36	71.20	70.74	59.10	70.74	95.24	70.33
Ho	Ha	9 ↓	0/5	25.00	18.63	09.79	00.01	25.76	14.97	25.76	88.86	10.00
Ho	O	24 ↓	0/5	**50.00**	73.97	10.39	66.66	65.38	51.91	64.42	90.71	70.82
Ho	P-U	37 ↓	0/5	33.33	62.85	06.69	**97.70**	**95.95**	**94.12**	**95.95**	**97.75**	**98.20**
Ho	P-D	20 ↓	0/5	33.33	74.81	**23.49**	28.46	61.15	56.87	61.15	93.51	46.24
Ho	P	12 ↓	0/5	33.33	36.53	11.88	00.18	33.90	13.41	30.51	90.38	13.40
Ho	S	9 ↓	0/5	28.57	36.97	05.13	00.01	29.82	16.87	29.82	89.09	10.67
Ho	W	35 ↓	5/5	33.33	43.97	01.58	87.06	68.75	54.74	68.75	97.66	85.82
O	C	47 ↑	0/5	33.33	72.08	04.53	**98.62**	**96.77**	**94.26**	**96.77**	**98.75**	**98.63**
O	Ha	13 ↓	0/5	25.00	13.74	08.27	00.84	35.71	23.59	35.71	91.24	17.99
O	Ho	33 ↓	0/5	**50.00**	73.97	10.39	48.86	41.56	25.55	41.11	93.33	57.96
O	P-U	12 ↓	0/5	33.33	49.41	03.12	14.08	38.53	23.45	38.53	88.26	32.94
O	P-D	9 ↓	0/5	33.33	**80.67**	12.36	02.12	13.38	05.55	13.38	85.18	20.28
O	P	41 ↓	5/5	33.33	25.42	07.85	68.47	78.59	70.36	78.59	96.35	75.56
O	S	13 ↓	0/5	28.57	31.94	07.71	01.21	40.98	26.44	40.98	91.24	19.26
O	W	35 ↓	5/5	33.33	32.29	**13.93**	86.74	68.75	54.74	68.75	97.99	86.45
P-U	C	47 ↑	0/5	25.00	51.54	07.03	90.29	79.74	67.27	79.74	95.59	86.00
P-U	Ha	9 ↓	0/5	20.00	16.82	07.10	00.01	25.76	14.97	25.76	89.14	09.94
P-U	Ho	52 ↑	5/5	**33.33**	62.85	06.69	**99.09**	**97.83**	**97.51**	**97.83**	94.98	**99.38**
P-U	O	46 ↑=	0/5	**33.33**	49.41	03.12	91.14	80.65	68.85	80.65	95.96	86.91

Table 5: Second half of the results for the `gpt-3.5-turbo-0613` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
P-U	P-D	43 ↕	0/5	25.00	**66.61**	**16.94**	91.96	89.58	87.57	89.58	96.68	94.08
P-U	P	40 ↕	5/5	25.00	16.68	07.00	61.58	78.42	72.02	78.42	96.02	70.87
P-U	S	9 ↓	0/5	22.22	44.73	07.44	00.01	29.82	16.87	29.82	89.46	10.55
P-U	W	35 ↓	5/5	25.00	29.69	09.47	86.74	68.75	54.74	68.75	**98.01**	86.45
P-D	C	55 ↑	0/5	25.00	75.76	05.19	72.88	72.08	58.11	72.08	96.19	84.98
P-D	Ha	55 ↑	5/5	20.00	11.31	11.42	85.43	71.82	67.48	71.82	95.42	85.89
P-D	Ho	52 ↑	0/5	**33.33**	74.81	**23.49**	94.49	86.65	84.82	86.65	**99.11**	94.70
P-D	O	46 =	0/5	**33.33**	**80.67**	12.36	90.54	79.57	67.21	79.57	96.64	86.54
P-D	P-U	37 ↓	0/5	25.00	66.61	16.94	**97.83**	**95.95**	**94.12**	**95.95**	98.66	**98.37**
P-D	P	32 ↓	0/5	25.00	29.18	11.33	46.66	64.15	46.15	62.89	95.23	59.99
P-D	S	10 ↓	0/5	22.22	44.27	13.58	00.02	29.31	16.67	29.31	89.95	11.12
P-D	W	37 ↓	5/5	25.00	32.13	22.02	76.90	61.65	48.34	61.65	95.24	83.54
P	C	61 ↑	0/5	25.00	20.33	08.16	66.18	**72.03**	**58.12**	**72.03**	**95.99**	**91.13**
P	Ha	63 ↑	5/5	20.00	31.58	07.76	71.68	52.59	41.61	52.59	94.17	79.54
P	Ho	41 ↓	0/5	**33.33**	36.53	**11.88**	47.26	30.17	15.64	30.17	92.27	53.28
P	O	4 ↓	5/5	**33.33**	25.42	07.85	00.04	09.43	05.84	09.43	79.45	13.45
P	P-U	14 ↓	0/5	25.00	16.68	07.00	19.85	15.02	05.32	13.50	87.33	33.24
P	P-D	38 ↓	0/5	25.00	29.18	11.33	56.93	47.37	30.25	44.75	93.29	66.56
P	S	18 ↓	1/5	22.22	**54.07**	07.72	13.94	25.22	15.46	25.22	90.32	22.68
P	W	39 ↓	5/5	25.00	50.92	09.70	**76.14**	64.71	50.98	64.71	94.81	87.15
S	C	47 ↓	0/5	22.22	38.08	08.87	85.95	80.65	68.85	80.65	95.79	86.42
S	Ha	58 ↑	5/5	18.18	37.71	09.35	94.51	87.50	84.27	87.50	98.43	95.32
S	Ho	41 ↓	0/5	**28.57**	36.97	05.13	67.49	64.29	54.03	64.29	95.87	71.71
S	O	46 ↓	0/5	**28.57**	31.94	07.71	85.91	80.65	68.85	80.65	95.93	86.40
S	P-U	25 ↓	0/5	22.22	44.73	07.44	55.02	52.88	40.19	52.88	92.05	61.38
S	P-D	46 ↓	0/5	22.22	44.27	**13.58**	**98.75**	**96.19**	**94.37**	**96.19**	**99.71**	**99.05**
S	P	56 ↑	5/5	22.22	54.07	07.72	93.79	82.29	79.35	82.29	99.01	94.37
S	W	35 ↓	5/5	22.22	**54.18**	05.04	87.06	68.75	54.74	68.75	98.44	87.16
W	C	47 ↑	0/5	25.00	30.31	15.59	91.13	80.65	68.85	80.615	95.58	86.87
W	Ha	12 ↓	0/5	20.00	50.98	11.83	00.06	18.84	10.36	18.84	89.64	10.40
W	Ho	52 ↑	0/5	**33.33**	43.97	01.58	88.13	83.24	76.50	83.24	96.92	89.86
W	O	21 ↓	0/5	**33.33**	32.29	13.93	31.63	52.00	37.56	52.00	90.51	45.28
W	P-U	16 ↓	0/5	25.00	29.69	09.47	23.86	17.70	06.21	17.70	88.81	36.67
W	P-D	46 ↑	0/5	25.00	32.13	**22.02**	**96.47**	**90.48**	**84.51**	**89.52**	**99.02**	**95.86**
W	P	41 ↑	5/5	25.00	50.92	09.70	68.86	77.71	68.59	77.71	95.16	74.83
W	S	12 ↓	0/5	22.22	**54.18**	05.04	00.11	25.00	11.63	25.00	90.13	11.66

Table 6: First half of the results for the `gpt-4-0613` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
C	Ha	39 ↓	4/5	20.00	02.69	08.55	55.87	64.88	59.77	64.88	93.88	62.48
C	Ho	48 ↑	0/5	**33.33**	**78.39**	14.36	87.33	83.49	76.25	80.77	95.78	87.86
C	O	46 ↓	0/5	**33.33**	72.08	04.53	**97.78**	94.19	90.33	94.19	**99.44**	97.98
C	P-U	37 ↓	0/5	25.00	51.54	07.03	97.70	**95.95**	**94.12**	**95.95**	98.77	**98.22**
C	P-D	19 ↓	0/5	25.00	75.76	05.19	23.79	39.37	24.58	39.37	91.38	39.31
C	P	47 =	5/5	25.00	20.33	08.16	79.69	81.96	75.17	81.96	96.36	83.23
C	S	28 ↓	4/5	22.22	38.08	08.87	37.03	66.19	59.52	66.19	93.44	50.90
C	W	33 ↓	5/5	25.00	30.31	**15.59**	80.94	67.19	51.84	65.89	95.72	81.33
Ha	C	44 ↓	0/5	20.00	02.69	08.55	80.58	74.55	61.55	73.68	95.49	77.51
Ha	Ho	45 ↓	0/5	**25.00**	18.63	9.78	75.45	69.41	58.70	67.12	95.55	78.52
Ha	O	46 ↓	0/5	**25.00**	13.74	8.27	86.86	78.20	65.60	77.33	96.02	81.52
Ha	P-U	25 ↓	0/5	20.00	16.82	07.10	61.28	64.17	54.20	64.17	92.35	67.76
Ha	P-D	32 ↓	0/5	20.00	11.31	11.42	63.57	66.17	58.03	64.97	94.18	70.96
Ha	P	54 ↓	5/5	20.00	31.58	07.76	91.06	81.51	76.64	78.32	96.48	91.63
Ha	S	55 ↓	5/5	18.18	37.71	09.35	**97.99**	**94.11**	**93.11**	**94.11**	**99.53**	**98.07**
Ha	W	35 ↓	5/5	20.00	**50.98**	**11.83**	87.06	68.75	54.74	68.75	97.92	86.29
Ho	C	13 ↓	4/5	33.33	**78.39**	14.36	06.05	35.04	25.57	35.04	90.62	24.50
Ho	Ha	29 ↓	4/5	25.00	18.63	09.78	29.51	55.44	48.15	55.44	93.06	44.19
Ho	O	13 ↓	4/5	**50.00**	73.97	10.39	07.89	32.70	23.25	32.70	90.58	24.93
Ho	P-U	30 ↓	0/5	33.33	62.85	06.69	**76.53**	**83.80**	**80.27**	**83.80**	**95.48**	**82.23**
Ho	P-D	12 ↓	4/5	33.33	74.81	**23.49**	09.26	37.86	31.78	37.86	89.24	25.96
Ho	P	41 ↓	5/5	33.33	36.53	11.88	61.35	72.80	64.62	72.80	95.44	68.55
Ho	S	26 ↓	4/5	28.57	36.97	05.13	28.03	60.48	51.02	60.48	92.94	43.90
Ho	W	12 ↓	1/5	33.33	43.97	01.58	17.42	26.22	13.94	22.06	87.36	22.99
O	C	47 ↑	0/5	33.33	72.08	04.53	**98.62**	**96.77**	**94.26**	**96.77**	**98.00**	**98.63**
O	Ha	54 ↑	1/5	25.00	13.74	08.27	81.85	71.78	67.59	71.78	96.31	82.99
O	Ho	47 ↑	0/5	**50.00**	73.97	10.39	87.76	84.80	78.19	82.02	96.27	88.52
O	P-U	37 ↓	0/5	33.33	49.41	03.12	97.70	95.95	94.12	95.95	97.75	98.23
O	P-D	18 ↓	0/5	33.33	**80.67**	12.36	22.02	31.79	19.25	26.92	88.03	38.97
O	P	47 ↑	5/5	33.33	25.42	07.85	80.29	83.75	76.85	83.75	96.27	83.79
O	S	34 ↓	4/5	28.57	31.94	07.71	47.68	65.05	60.11	65.05	93.89	57.67
O	W	23 ↓	3/5	33.33	32.29	**13.93**	49.20	46.60	32.86	43.93	92.09	53.15
P-U	C	41 ↕	0/5	25.00	51.54	07.03	77.17	72.44	60.20	72.44	96.11	75.45
P-U	Ha	37 =↓	4/5	20.00	16.82	07.10	53.59	63.18	57.16	63.18	93.66	60.52
P-U	Ho	43 ↕	4/5	**33.33**	62.85	06.69	78.64	**85.91**	**81.33**	**85.23**	**97.44**	82.41
P-U	O	38 ↕	0/5	**33.33**	49.41	03.12	71.48	74.38	62.42	74.38	95.95	71.12

Table 7: Second half of the results for the `gpt-4-0613` model.

Actions				Semantic Action Similarity			Code Generation Quality					
Gen.	**Ref.**	**LoC**	**Comp.**	**WuP** [7]	**GloVe** [4]	**SMD** [6]	**BLEU** [3]	**R-1** [1]	**R-2** [1]	**R-L** [1]	**CBS** [8]	**chrF** [5]
P-U	P-D	23 ↓	0/5	25.00	**66.61**	**16.94**	31.64	48.36	33.85	48.36	94.03	47.86
P-U	P	48 ↑	5/5	25.00	16.68	07.00	79.81	82.22	76.95	82.22	96.83	**84.36**
P-U	S	28 ↓	4/5	22.22	44.73	07.44	37.43	66.19	59.29	66.19	93.35	50.93
P-U	W	33 ↓	5/5	25.00	29.69	09.47	**82.02**	67.60	53.58	67.60	96.42	83.23
P-D	C	28 ↓	4/5	25.00	75.76	05.19	36.33	47.27	32.94	46.10	94.45	48.29
P-D	Ha	42 ↓	0/5	20.00	11.31	11.42	58.59	52.68	47.03	52.68	93.37	62.29
P-D	Ho	47 ↑	0/5	**33.33**	74.81	**23.49**	69.60	67.45	54.64	63.91	94.78	77.55
P-D	O	33 ↓	0/5	**33.33**	**80.67**	12.36	52.17	51.96	34.95	49.86	95.11	59.29
P-D	P-U	38 ↓	0/5	25.00	66.61	16.94	**90.62**	**89.05**	**84.77**	**89.05**	**96.32**	**94.35**
P-D	P	46 =	1/5	25.00	29.18	11.33	75.64	72.72	59.66	71.84	95.88	80.10
P-D	S	27 ↓	0/5	22.22	44.27	13.58	37.54	55.20	43.52	54.21	93.19	50.12
P-D	W	17 ↓	5/5	25.00	32.13	22.02	27.10	41.28	27.79	41.28	92.54	44.94
P	C	66 ↑	0/5	25.00	20.33	08.16	62.95	69.93	57.13	69.93	96.17	91.18
P	Ha	62 ↑	4/5	20.00	31.58	07.76	71.58	52.00	41.13	52.00	94.30	77.89
P	Ho	46 ↓	0/5	**33.33**	36.53	**11.88**	58.80	42.58	29.15	40.52	93.73	66.95
P	O	53 ↓	0/5	**33.33**	25.42	07.85	**79.65**	**83.35**	**71.85**	**83.35**	**96.55**	**95.18**
P	P-U	55 ↓	0/5	25.00	16.68	07.00	49.04	46.78	28.92	46.78	94.01	84.19
P	P-D	19 ↓	0/5	25.00	29.18	11.33	21.76	32.76	20.13	29.28	89.32	37.32
P	S	51 ↓	4/5	22.22	**54.07**	07.72	64.09	47.59	36.50	47.59	93.90	67.51
P	W	32 ↓	5/5	25.00	50.92	09.70	58.69	53.60	37.27	52.61	94.60	69.82
S	C	44 ↓	0/5	22.22	38.08	08.87	73.27	69.15	55.78	69.15	95.19	74.60
S	Ha	49 ↓	4/5	18.18	37.71	09.35	77.03	80.29	74.98	80.29	**97.25**	79.94
S	Ho	48 ↓	0/5	**28.57**	36.97	05.13	84.36	76.73	69.39	73.97	95.97	84.93
S	O	42 ↓	0/5	**28.57**	31.94	07.71	75.78	72.02	60.42	72.02	95.25	74.41
S	P-U	29 ↓	0/5	22.22	44.73	07.44	62.04	55.60	43.18	55.60	91.89	66.52
S	P-D	30 ↓	0/5	22.22	44.27	**13.58**	47.96	43.23	27.81	41.26	93.01	58.46
S	P	54 ↓	5/5	22.22	54.07	07.72	**90.15**	**81.14**	**76.80**	**81.14**	96.25	**90.85**
S	W	13 ↓	1/5	22.22	**54.18**	05.04	17.78	22.74	13.87	21.82	88.78	25.81
W	C	47 ↑	0/5	25.00	30.31	15.59	**90.35**	79.74	67.38	79.74	**98.08**	85.94
W	Ha	47 ↑	3/5	20.00	50.98	11.83	62.71	51.30	44.97	51.30	93.89	65.35
W	Ho	61 ↑	0/5	**33.33**	43.97	01.58	77.37	74.33	65.80	74.33	96.41	88.83
W	O	47 ↑	0/5	**33.33**	32.29	13.93	88.71	78.53	65.63	78.53	96.90	84.28
W	P-U	31 ↓	0/5	25.00	29.69	09.47	65.23	57.00	45.98	57.00	92.35	66.94
W	P-D	23 ↓	0/5	25.00	32.13	**22.02**	34.93	33.60	23.62	30.85	89.17	49.98
W	P	54 ↑	5/5	25.00	50.92	09.70	90.15	**80.97**	**76.80**	**80.97**	96.40	**90.48**
W	S	36 ↑	4/5	22.22	**54.18**	05.04	47.96	60.17	53.52	60.17	94.04	56.69