APPENDIX

B

OUTLIERS DETECTION AND TREATMENT IN DATA GATHERED FROM MOTIVATION SURVEYS

Prior to any statistical analysis related to participants' motivation in the empirical studies, outliers identified as careless responses have been drop out from the data collected by motivational surveys (section B.1). These outliers correspond to incorrectly entered data by the students in the adapted Portuguese version of Intrinsic Motivation Inventory (IMI) and the Instructional Materials Motivation Survey (IMMS). After to remove the careless responses, outliers identified as extreme values are replaced to the trimmed minimum and maximum values by the Winsorization method (section B.2).

B.1 Removing Careless Responses

The questionnaires of the adapted Portuguese IMI have 24 items, so that a careless response is defined as a response in which the length of uninterrupted identical values for the items is greater than 12 (half of the items). For the data collected by the questionnaires of the adapted Portuguese IMMS, a careless response is defined as a response in which the length of uninterrupted identical values is greater than half of the items (12 items).

B.1.1 Intrinsic Motivation Inventory Data

Table 24 shows the two careless responses identified and removed from the IMI data collected over the pilot empirical study. These two careless responses corresponds to participants with user IDs 10119 and 10133; and they were identified in 32 responses collected from computer science undergraduate students by a web-based questionnaire of the adapted Portuguese version of IMI (shown in section C.1).

Table 24 – Summary of careless responses in the IMI data collected over the pilot empirical study

@@	UserID	Item01	Item02	Item03	Item04	Item05	Item06	Item07	Item08	...
	10116	3	7	4	4	2	6	4	4	...
—	10119	4	4	4	4	4	4	4	4	...
	10120	7	3	7	7	6	2	1	1	...
...	...	...	...	...	...	...	...	...	...	...
	10132	1	7	7	6	4	4	3	4	...
—	10133	4	4	4	4	4	4	4	4	...
	10134	2	6	4	4	3	3	4	6	...
...	...	...	...	...	...	...	...	...	...	...

Table 25 shows the careless responses identified and removed from the data collected over the first empirical study. These two careless responses correspond to participants with user IDs 10229 and 10241, and they were identified in a set of 62 responses collected from computer engineer undergraduate students by means of the paper-based questionnaire version of IMI (shown in section C.2).

Table 25 – Summary of careless responses in the IMI data collected over the first empirical study

@@	UserID	Item01	Item02	Item03	Item04	Item05	Item06	Item07	...
...	...	...	...	...	...	...	...	...	...
	10213	7	4	2	7	4	1	4	...
—	10229	4	4	4	4	4	4	4	...
—	10241	1	1	1	1	1	1	1	...

Table 26 shows the four careless responses identified and removed from the IMI data collected over the third empirical study. These careless responses correspond to participants with user IDs 10178, 10196, 10211 and 10240. These four careless responses were identified in 55 responses collected from computer engineer undergraduate students by means of the web-based questionnaire version of IMI (shown in section C.4).

Table 26 – Summary of careless responses in the IMI data collected over the third empirical study

@@	UserID	Item01	Item02	Item03	Item04	Item05	...
...	...	...	...	...	...	...	...
	10176	3	6	4	4	5	...
—	10178	4	4	4	4	4	...
	10179	6	5	6	6	2	...
...	...	...	...	...	...	...	...
	10193	1	1	1	1	2	...
—	10196	4	4	4	4	4	...

Table 26 – *(continued)*

@@	UserID	Item01	Item02	Item03	Item04	Item05	...
	10197	4	4	4	4	4	...
...	...	...	...	...	...	...	...
	10210	1	7	7	4	1	...
—	10211	4	4	4	4	4	...
	10213	1	7	7	7	3	...
...	...	...	...	...	...	...	...
	10238	3	5	5	5	4	...
—	10240	4	4	4	4	4	...

B.1.2 Instructional Materials Motivation Survey Data

No one careless response has been identified in 58 responses collected over the second empirical study by means of the paper-based questionnaire of the adapted Portuguese IMMS (section C.3). Table 27 shows the three careless responses identified and removed in the IMMS data collected over the third empirical study. These careless responses correspond to participants with user IDs 10196, 10211 and 10240; and they were identified in 55 responses collected from computer engineering undergraduate students by means of the web-based questionnaire version of IMMS (shown in section C.4).

Table 27 – Summary of careless responses in the IMMS data collected over the third empirical study

@@	UserID	Item01	Item02	Item03	Item04	Item06	...
...	...	...	...	...	...	...	...
	10193	1	1	1	2	1	...
—	10196	4	4	4	4	4	...
	10197	7	5	3	7	5	...
...	...	...	...	...	...	...	...
	10210	1	1	1	1	1	...
—	10211	4	4	4	4	4	...
	10213	5	7	7	5	7	...
...	...	...	...	...	...	...	...
	10238	4	5	5	4	5	...
—	10240	4	4	4	4	4	...

B.2 Winsorizing Extreme Values

In surveys, a extreme value is an outliers that happens when a participant has an extreme response style score (EXTREME..., 2008). These tendency of some participants to answer

surveys indicating extreme lower and upper values generates representative outliers that cannot simply removed from the data for the statistical analyses. Thus, to reduce the impact of extreme values in the surveys, by transforming the extreme values into a specified percentile of the data, the data collected by the motivation surveys had been Winsorized. Winsorization is a method that shrink extreme values to the border of the main part of the data, and it had been carried out with the robustHD package version 0.5 (ALFONS, 2016) in R software version 3.4.3 (R Core Team, 2017).

B.2.1 Intrinsic Motivation Inventory Data

Table 28 show the responses identified as extreme values in the data collected by means of the adapted Portuguese IMI over the empirical studies. This table also shows how these extreme values had been transformed into the trimmed minimum and maximum values by the Winsorization method for the validation of the adapted Portuguese IMI.

B.2.2 Instructional Materials Motivation Survey Data

Table 29 presents the responses identified as extreme values in the data collected over the empirical studies by means of the adapted Portuguese version of IMMS. This table also shows the changes in these extreme values by the Winsorization method for the validation of the adapted Portuguese IMMS.

Table 28 – Summary of Winsorized responses for the validation of adapted Portuguese IMI

@@	Study	UserID	Item01	Item02	Item03	Item04	Item05	Item06	Item07	Item08	Item09	...	Item12	Item13	Item14	Item15	Item16	Item17	Item18	Item19	Item20	Item21
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	pilot	10126	5	2	5	7	6	2	5	1	6	...	6	1	2	2	1	2	1	2	2	6
->	pilot	10127	4	2	5	7	6	3	5	4	6	...	6	6->5	2	3	4	4	2	4	1	6
->	pilot	10128	1	4	1->2	1->3	7	1	7->6	7->6	1	...	1	7->5	1	1	1	1	1	7	7->6	1
->	pilot	10129	1	7	7	4	2	4	2	4	2	...	1	5	7->5	5	5	4	7->5	4	2	3
	pilot	10130	4	3	6	5	4	5	2	5	5	...	4	1	4	4	5	4	5	5	3	5
->	pilot	10131	4	5	6	7	4	7	1	2	5	...	7	3	1	7	2	7->6	2	7	1	7
->	pilot	10132	1	7	7	6	4	4	3	4	1	...	1	3	2	3	2	2	2	7	7->6	1
	pilot	10134	2	6	4	4	3	3	4	6	2	...	2	4	3	5	3	5	3	4	4	2
	pilot	10135	5	4	5	7	7	1	5	6	5	...	5	2	4	2	4	2	4	2	2	5
->	pilot	10136	1	7	3	1->3	1	6	6	7->6	1	...	1	5	1	5	3	7->6	7->5	4	6	1
	pilot	10137	5	1	5	4	5	1	1	1	5	...	6	1	1	4	1	1	1	3	1	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	pilot	10139	1	4	5	7	7	4	5	1	6	...	3	4	4	7	3	1	1	1	1	5
->	pilot	10140	1	4	3	2->3	4	4	4	4	4	...	1	5	6->5	4	4	4	5	4	5	4
	pilot	10141	2	4	5	4	4	6	3	4	5	...	3	5	4	4	3	4	1	5	3	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	pilot	10143	4	4	6	6	5	3	2	2	4	...	4	2	2	4	3	2	2	2	2	5
->	pilot	10145	1	7	7	4	1	4	1	4	4	...	4	1	4	7	4	4	4	4	7->6	3
	pilot	10146	5	3	6	6	6	3	2	2	5	...	5	1	3	4	3	3	3	3	3	5
	pilot	10148	4	3	6	4	4	1	1	1	4	...	4	2	2	4	5	3	5	4	1	6
->	pilot	10149	4	3	7	1->3	1	7	5	7->6	1	...	1	1	7->5	6	7->5	6	5	7	7->6	7
->	pilot	10152	7	3	7	6	7	4	7->6	1	7	...	7	5	3	2	2	2	2	7	2	7
	pilot	10153	5	4	5	5	7	3	2	2	5	...	5	5	2	6	2	5	2	4	4	3
->	pilot	10154	3	6	5	4	2	6	3	5	4	...	2	5	2	6	6->5	6	3	4	7->6	1
	pilot	10158	7	3	7	7	4	4	1	1	6	...	7	1	1	4	1	1	1	2	2	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	first	10171	6	2	3	7	7	2	1	1	6	...	6	1	1	3	1	2	1	2	1	5
->	first	10172	6	4	5	7	3	2	4	3	6	...	5	6->5	1	2	1	2	1	2	3	5
	first	10174	4	4	6	7	4	4	1	3	5	...	4	1	1	4	1	3	1	2	3	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	first	10201	5	2	7	7	7	3	1	2	7	...	7	1	3	2	2	2	1	2	1	7
->	first	10202	4	7	7	7	4	4	1	5	4	...	4	1	7->5	4	7->5	4	7->5	4	4	4
	first	10203	7	1	5	7	7	1	5	1	7	...	7	2	1	1	2	1	1	1	1	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	first	10208	6	4	7	7	7	4	1	1	6	...	7	1	1	2	4	1	1	2	2	7
->	first	10209	4	7	7	7	4	7	1	7->6	3	...	3	1	1	7	1	7->6	1	4	5	3
->	first	10210	4	6	6	6	3	5	1	5	5	...	4	1	4	6	4	4	6->5	5	5	2
->	first	10211	7	7	3	3	3	6	6	3	7	...	5	6->5	2	6	2	3	3	2	2	6
	first	10212	5	3	6	6	7	3	2	1	6	...	6	2	2	1	4	2	2	1	1	7

Table 28 – *(continued)*

@@	Study	UserID	Item01	Item02	Item03	Item04	Item05	Item06	Item07	Item08	Item09	...	Item12	Item13	Item14	Item15	Item16	Item17	Item18	Item19	Item20	Item21
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	first	10221	4	3	6	6	6	4	2	1	5	...	4	1	1	4	1	1	1	7	4	5
->	first	10222	1	7	4	5	2	6	4	7->6	1	...	1	2	3	7	3	6	4	6	6	1
	first	10223	6	2	6	5	6	2	3	1	6	...	6	3	1	2	2	1	1	6	3	7
->	first	10224	6	4	4	7	7	4	4	7->6	7	...	7	2	1	7	1	7->6	3	5	3	7
	first	10226	2	6	6	6	2	4	1	5	4	...	4	1	1	6	1	4	3	5	2	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	first	10238	4	4	5	7	3	5	2	4	3	...	4	2	4	7	4	5	5	3	2	4
->	first	10240	4	6	5	6	6	7	4	5	3	...	4	3	1	7	1	7->6	1	7	7->6	2
->	third	10169	7	4	5	7	5	2	5	2	7	...	7	5	7->5	4	7->5	2	6->5	4	2	7
	third	10170	3	2	4	6	4	1	3	3	4	...	4	3	1	3	1	2	1	2	2	6
	third	10171	5	2	7	7	6	2	1	1	7	...	5	1	2	2	2	2	1	1	2	6
->	third	10172	4	5	4	6	5	5	5	5	5	...	5	5	4	5	6->5	6	5	5	5	7
->	third	10174	3	4	4	4	5	3	2	4	4	...	6	5	4	4	5	4	6->5	6	5	6
	third	10175	4	1	4	5	7	1	1	1	4	...	4	1	1	3	1	1	1	1	1	4
->	third	10176	3	6	4	4	5	5	5	4	4	...	4	4	4	4	6->5	4	6->5	5	5	4
	third	10179	6	5	6	6	2	5	1	4	4	...	4	2	1	7	1	6	2	4	4	3
->	third	10181	2	5	1->2	2->3	3	5	4	3	3	...	2	7->5	4	5	1	1	5	5	4	2
->	third	10183	3	2	2	2->3	2	3	3	5	3	...	2	4	4	4	4	4	5	4	4	3
	third	10184	4	3	3	5	3	4	4	4	3	...	4	4	4	4	3	5	4	4	4	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10189	1	5	5	4	1	4	3	4	2	...	2	1	1	5	1	5	2	6	5	4
->	third	10190	2	3	4	5	5	5	5	4	4	...	4	3	5	7	7->5	7->6	6->5	4	5	3
	third	10191	1	5	4	4	2	4	4	5	2	...	2	2	1	5	1	5	1	6	4	3
	third	10192	4	3	7	6	4	4	5	4	5	...	1	1	4	3	4	2	4	4	3	4
->	third	10193	1	1	1->2	1->3	2	1	2	1	1	...	2	1	1	1	1	1	2	1	1	1
	third	10197	4	4	4	4	4	2	3	4	2	...	2	3	3	2	3	3	5	3	3	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10203	5	1	7	7	4	1	1	1	4	...	4	1	2	4	5	1	1	1	5	3
->	third	10204	1	7	4	4	1	7	1	7->6	1	...	1	4	7->5	7	7->5	7->6	7->5	7	4	1
	third	10206	3	3	5	5	5	2	2	2	5	...	4	2	3	3	2	2	3	2	3	4
	third	10208	3	4	5	3	5	4	2	2	4	...	4	2	2	4	2	2	2	5	5	4
->	third	10209	2	7	3	3	1	7	3	7->6	2	...	2	2	2	7	1	7->6	1	5	6	2
->	third	10210	1	7	7	4	1	7	1	7->6	1	...	1	1	7->5	7	7->5	7->6	7->5	7	7->6	1
->	third	10213	1	7	7	7	3	7	1	7->6	4	...	4	1	1	7	7->5	7->6	7->5	7	1	4
	third	10214	1	6	7	4	1	7	1	6	1	...	1	1	5	6	1	2	4	5	6	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10218	4	4	4	4	3	5	4	4	4	...	4	4	4	4	5	5	4	3	3	4
->	third	10219	4	1	1->2	1->3	1	4	7->6	7->6	1	...	2	5	1	7	1	7->6	1	7	7->6	1
	third	10220	1	1	4	7	7	4	1	1	4	...	4	1	1	1	1	1	1	1	4	4

Table 28 – *(continued)*

@@	Study	UserID	Item01	Item02	Item03	Item04	Item05	Item06	Item07	Item08	Item09	...	Item12	Item13	Item14	Item15	Item16	Item17	Item18	Item19	Item20	Item21
->	third	10221	2	6	5	3	2	5	3	6	3	...	3	2	4	4	2	4	6->5	4	6	3
	third	10223	5	4	5	5	4	3	4	4	5	...	5	4	4	4	4	4	2	4	3	6
	third	10224	4	4	5	5	3	4	5	4	4	...	4	4	4	5	5	5	5	4	3	4
->	third	10226	1	7	1->2	1->3	1	7	7->6	7->6	1	...	1	7->5	7->5	7	7->5	7->6	7->5	4	4	4
	third	10227	5	3	4	5	5	3	3	3	3	...	5	5	5	4	4	4	3	3	3	6
->	third	10228	1	1	1->2	1->3	1	1	1	2	1	...	2	2	2	2	3	2	2	1	2	2
->	third	10230	4	3	3	6	4	3	2	5	5	...	5	3	5	5	4	4	6->5	6	3	5
->	third	10231	6	2	1->2	6	7	2	4	2	4	...	5	3	1	1	1	1	1	2	4	4
	third	10232	4	3	5	5	4	4	1	4	4	...	5	1	2	3	2	3	2	1	2	5
->	third	10234	1	7	1->2	5	3	6	6	6	2	...	2	6->5	4	6	2	6	2	6	5	2
->	third	10237	4	3	4	5	5	3	4	4	5	...	6	2	6->5	6	5	3	4	4	4	3
	third	10238	3	5	5	5	4	5	2	4	4	...	4	1	5	7	5	5	5	4	4	4

Table 29 – Summary of Winsorized responses for the validation of adapted Portuguese IMMS

@@	Study	UserID	Item01	Item02	Item03	Item04	Item06	Item07	Item08	Item09	Item10	Item11	...	Item20	Item21	Item22	Item23	Item24	Item25	Item26
->	second	10169	2	2	1->2	2	4	2	5	1	6	2	...	2	3	6	4	3	7	2
	second	10170	4	6	6	5	4	6	4	4	2	5	...	3	2	3	2	6	6	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10185	4	4	4	5	4	3	2	3	3	4	...	3	4	2	2	4	4	4
->	second	10186	1	5	1->2	4	7	4	4	4	4	3	...	4	3	4	1	7	7	6
	second	10187	6	5	5	4	4	4	5	5	5	4	...	5	6	6	5	5	5	6
	second	10188	4	4	5	5	5	4	1	4	2	4	...	4	4	4	3	5	4	4
->	second	10189	1	2	2	1	1->2	1	7->6	1	7->6	1	...	2	7->6	2	7->6	1->2	3	1
->	second	10190	3	5	7	4	4	5	1	4	6	6	...	1	5	5	7->6	7	5	2
	second	10191	6	7	7	6	6	7	2	4	1	5	...	6	2	4	1	7	7	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10193	3	2	4	3	5	4	1	3	4	1	...	3	3	2	5	4	3	4
->	second	10196	4	7	3	1	7	4	4	4	7->6	4	...	4	5	4	3	2	4	5
	second	10197	7	5	5	5	5	4	4	4	1	3	...	4	3	3	5	4	6	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10208	4	5	4	3	5	3	3	4	6	5	...	4	4	4	3	5	4	5
->	second	10209	1	1->2	7	1	4	2	1	4	6	1	...	1	6	1	1	1->2	4	4
	second	10210	4	4	4	4	6	2	2	2	3	4	...	3	6	6	3	3	3	3
->	second	10211	1	1->2	1->2	1	1->2	1	1	2	5	3	...	1	4	1	4	4	1->2	1
	second	10212	2	4	6	4	4	3	2	3	4	5	...	3	3	2	3	4	5	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10218	4	7	3	2	7	4	3	4	2	5	...	2	3	4	1	7	7	7
->	second	10219	1	2	4	1	1->2	1	4	4	4	3	...	3	6	4	5	2	3	4
	second	10220	1	7	5	1	7	7	1	7	1	7	...	4	1	1	4	7	7	7
	second	10221	4	4	6	2	4	6	2	4	6	6	...	4	5	5	5	4	6	4
->	second	10223	1	1->2	4	1	2	4	4	2	5	4	...	3	6	2	4	2	2	2
	second	10224	4	7	7	7	7	5	1	4	1	4	...	5	2	6	2	6	6	5
->	second	10226	6	7	1->2	4	5	4	3	4	1	6	...	5	1	4	6	6	6	4
	second	10227	7	7	6	5	6	6	2	6	2	6	...	6	2	4	2	6	6	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10231	3	3	6	4	6	5	1	1	4	3	...	2	5	4	4	6	5	4
->	second	10232	5	5	5	5	6	5	2	5	2	6	...	5	1	6	1	7	1->2	6
	second	10233	2	4	6	3	2	1	4	1	5	4	...	7	5	5	4	6	4	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	second	10240	2	2	4	2	2	4	4	2	5	4	...	2	5	2	4	3	2	2
->	second	10242	1	1->2	1->2	1	5	1	4	1	7->6	1	...	1	6	3	3	7	4	4
	third	10169	7	7	5	7	7	7	3	7	2	6	...	7	1	7	1	7	7	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10188	3	3	4	4	4	3	2	2	1	2	...	3	2	2	3	4	4	4
->	third	10189	1	3	1->2	2	4	1	1	1	3	3	...	1	6	1	5	2	4	3

Table 29 – *(continued)*

@@	Study	UserID	Item01	Item02	Item03	Item04	Item06	Item07	Item08	Item09	Item10	Item11	...	Item20	Item21	Item22	Item23	Item24	Item25	Item26
->	third	10190	3	6	5	6	6	5	4	4	5	3	...	5	5	5	4	1->2	3	3
	third	10191	4	4	3	2	4	2	6	2	3	3	...	2	3	1	2	3	3	5
	third	10192	4	4	5	4	4	4	4	4	4	4	...	7	1	7	4	6	5	6
->	third	10193	1	1->2	1->2	2	1->2	2	1	1	2	1	...	1	1	1	1	1->2	1->2	1
	third	10197	7	5	3	7	5	4	4	5	1	4	...	4	5	1	3	5	4	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10203	4	7	4	4	7	7	3	6	4	4	...	4	4	2	1	5	4	5
->	third	10204	1	1->2	4	1	1->2	1	4	1	7->6	1	...	1	1	1	7->6	1->2	4	1
	third	10206	4	5	4	4	6	4	3	4	3	5	...	4	3	4	3	4	6	5
	third	10208	2	4	3	2	4	2	3	4	6	3	...	3	5	3	3	4	3	4
->	third	10209	2	4	1->2	2	4	1	1	4	6	4	...	3	4	1	5	4	4	4
->	third	10210	1	1->2	1->2	1	1->2	1	7->6	1	7->6	1	...	1	7->6	4	1	1->2	4	1
	third	10213	5	7	7	5	7	7	1	3	1	4	...	2	2	5	5	7	4	4
->	third	10214	3	2	2	1	1->2	1	3	1	5	3	...	2	5	1	6	2	2	2
	third	10215	5	2	2	4	2	1	1	5	1	4	...	1	1	1	1	2	4	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10220	4	7	4	1	7	1	1	4	1	4	...	1	1	4	4	4	7	1
->	third	10221	2	2	4	4	3	3	7->6	3	4	4	...	2	6	3	4	4	3	2
	third	10223	4	4	3	3	4	4	4	4	3	4	...	4	2	5	3	5	7	5
	third	10224	5	5	5	4	5	4	3	4	3	5	...	4	4	4	4	4	5	4
->	third	10226	4	4	3	3	2	1	5	1	4	4	...	4	4	4	5	1->2	5	2
	third	10227	5	4	5	5	4	5	2	5	2	5	...	6	4	6	4	5	6	6
->	third	10228	1	1->2	1->2	1	1->2	1	1	1	2	1	...	2	7->6	1	2	2	2	3
	third	10230	4	5	5	3	2	2	3	6	4	7	...	5	3	2	5	3	4	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	third	10232	4	6	5	4	5	4	1	4	2	6	...	4	2	7	2	6	7	4
->	third	10234	6	2	1->2	2	6	2	2	1	1	1	...	6	4	1	6	5	4	2
	third	10237	3	5	3	4	2	3	2	4	4	5	...	4	4	2	4	5	5	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...