GUIDE TO THE

ALGORITHMIC
CHILD
INSTITUTION
DISTIBUTION

SYSTEM
(DEMO)

CONTENTS:

RUNNING THE CODE

To start the maching-system go to: http://wildboy.uib.no/~kud005/ACID/ and press the «calculate» button in the middle of the screen. While the light behind the button is yellow the system is running.

This results in a page containing two elements. Metrics for the matching and an overview of the matchings arranged by kindergartens and spots.

1.

Results: 58.4% 1st priority. 10.0% 2nd priority. 3.6% 3rd priority. 11.2% >3rd priority. 16.8% waiting list.

This element shows some metrics related to the matchng. It describes how many percentage of the children get their first, second, third and above third priority. In addition to how many goes into the waiting list.

2.

Salhus barnehage (Åsane)
- 0101spot_0: kid_138
- 0101spot_1: kid_85
- 0101spot_2: kid_37
- 0101spot_3: kid_229
- 0101spot_4: kid_224
- 0101spot_5: kid_195
- 0101spot_6: kid_181
- 0101spot_7: kid_171
- 0101spot_8: kid_144
- 0101spot_9: kid_116
- 0101spot_10: kid_63
- 0101spot_11: kid_50
- 0101spot_12: kid_7
- 0101spot_13: kid_132
- 0101spot_14: kid_118
- 0101spot_15: kid_90
- 0101spot_16: kid_80
- 0101spot_17: kid_64

Bogane barnehage (Arna)
- 0102spot_0: kid_247
- 0102spot_1: kid_222
- 0102spot_2: kid_24
- 0102spot_3: kid_230
- 0102spot_4: kid_65
- 0102spot_5: kid_58
- 0102spot_6: kid_0
- 0102spot_7: kid_190
- 0102spot_8: kid_159
- 0102spot_9: kid_220
- 0102spot_10: kid_219
- 0102spot_11: kid_213
- 0102spot_12: kid_207
- 0102spot_13: kid_129
- 0102spot_14: kid_91
- 0102spot_15: kid_78
- 0102spot_16: kid_51
- 0102spot_17: kid_38
- 0102spot_18: kid_29
- 0102spot_19: kid_2
- 0102spot_20: kid_241
- 0102spot_21: kid_239
- 0102spot_22: kid_226
- 0102spot_23: kid_200
- 0102spot_24: kid_168
- 0102spot_25: kid_128
- 0102spot_26: kid_120
- 0102spot_27: kid_115
- 0102spot_28: kid_113
- 0102spot_29: kid_111
- 0102spot_30: kid_108
- 0102spot_31: kid_103
- 0102spot_32: kid_102
- 0102spot_33: kid_99
- 0102spot_34: kid_97
- 0102spot_35: kid_92
- 0102spot_36: kid_88
- 0102spot_37: kid_86
- 0102spot_38: kid_77
- 0102spot_39: kid_76
- 0102spot_40: kid_71
- 0102spot_41: kid_57
- 0102spot_42: kid_40
- 0102spot_43: kid_36
- 0102spot_44: kid_28
- 0102spot_45: kid_17
- 0102spot_46: kid_12
- 0102spot_47: kid_243
- 0102spot_48: kid_236
- 0102spot_49: kid_234

Marken barnehage (Bergenhus)
- 0103spot_0: kid_15
- 0103spot_1: kid_27
- 0103spot_2: kid_238
- 0103spot_3: kid_208
- 0103spot_4: kid_196
- 0103spot_5: kid_172
- 0103spot_6: kid_151
- 0103spot_7: kid_125
- 0103spot_8: kid_67
- 0103spot_9: kid_248
- 0103spot_10: kid_141
- 0103spot_11: kid_136
- 0103spot_12: kid_130
- 0103spot_13: kid_35
- 0103spot_14: kid_16
- 0103spot_15: kid_184
- 0103spot_16: kid_160
- 0103spot_17: kid_124
- 0103spot_18: kid_121
- 0103spot_19: kid_81
- 0103spot_20: kid_60
- 0103spot_21: kid_33
- 0103spot_22: kid_245
- 0103spot_23: kid_227
- 0103spot_24: kid_217
- 0103spot_25: kid_179
- 0103spot_26: kid_174
- 0103spot_27: kid_156
- 0103spot_28: kid_152
- 0103spot_29: kid_148

Sletten barnehage (Årstad)
- 0104spot_0: kid_5
- 0104spot_1: kid_237
- 0104spot_2: kid_139
- 0104spot_3: kid_119
- 0104spot_4: kid_83
- 0104spot_5: kid_22
- 0104spot_6: kid_231
- 0104spot_7: kid_145
- 0104spot_8: kid_209
- 0104spot_9: kid_163

Lyngfaret barnehage (Laksevåg)
- 0105spot_0: kid_93
- 0105spot_1: kid_182
- 0105spot_2: kid_143
- 0105spot_3: kid_87
- 0105spot_4: kid_21
- 0105spot_5: kid_158
- 0105spot_6: kid_154
- 0105spot_7: kid_100
- 0105spot_8: kid_72
- 0105spot_9: kid_61
- 0105spot_10: kid_54
- 0105spot_11: kid_41
- 0105spot_12: kid_34
- 0105spot_13: kid_30
- 0105spot_14: kid_228
- 0105spot_15: kid_122
- 0105spot_16: kid_106
- 0105spot_17: kid_68
- 0105spot_18: kid_62
- 0105spot_19: kid_48
- 0105spot_20: kid_47
- 0105spot_21: kid_18
- 0105spot_22: kid_6
- 0105spot_23: kid_249
- 0105spot_24: kid_242
- 0105spot_25: kid_178
- 0105spot_26: kid_164
- 0105spot_27: kid_157
- 0105spot_28: kid_140
- 0105spot_29: kid_123

Brinken barnehage (Fyllingsdalen)
- 0106spot_0: kid_198
- 0106spot_1: kid_155
- 0106spot_2: kid_112
- 0106spot_3: kid_197
- 0106spot_4: kid_74
- 0106spot_5: kid_52
- 0106spot_6: kid_235
- 0106spot_7: kid_216
- 0106spot_8: kid_212
- 0106spot_9: kid_176
- 0106spot_10: kid_31
- 0106spot_11: kid_221
- 0106spot_12: kid_191
- 0106spot_13: kid_187
- 0106spot_14: kid_95
- 0106spot_15: kid_55
- 0106spot_16: kid_42
- 0106spot_17: kid_169
- 0106spot_18: kid_194
- 0106spot_19: kid_82

Aurdalslia barnehage (Ytrebygda)
- 0107spot_0: kid_89
- 0107spot_1: kid_98
- 0107spot_2: kid_84
- 0107spot_3: kid_53
- 0107spot_4: kid_225
- 0107spot_5: kid_223
- 0107spot_6: kid_23
- 0107spot_7: kid_8
- 0107spot_8: kid_215
- 0107spot_9: kid_73
- 0107spot_10: kid_25
- 0107spot_11: kid_4
- 0107spot_12: kid_3
- 0107spot_13: kid_246
- 0107spot_14: kid_192
- 0107spot_15: kid_188
- 0107spot_16: kid_180
- 0107spot_17: kid_169
- 0107spot_18: kid_161
- 0107spot_19: kid_105

Apeltun barnehage (Fana)
- 0108spot_0: kid_205
- 0108spot_1: kid_189
- 0108spot_2: kid_126
- 0108spot_3: kid_107
- 0108spot_4: kid_69
- 0108spot_5: kid_214
- 0108spot_6: kid_186
- 0108spot_7: kid_153
- 0108spot_8: kid_94
- 0108spot_9: kid_46
- 0108spot_10: kid_206
- 0108spot_11: kid_201
- 0108spot_12: kid_114
- 0108spot_13: kid_210
- 0108spot_14: kid_204
- 0108spot_15: kid_193
- 0108spot_16: kid_135
- 0108spot_17: kid_133
- 0108spot_18: kid_127
- 0108spot_19: kid_117

This element shows how the children are distributed into the different kindergartens. This shows what child got what spot. All spots are clickable to show more information.

1

DETAILS

To start the maching-system go to: http://wildboy.uib.no/~kud005/ACID/ and press the «calculate» button in the middle of the screen. While the light behind the button is yellow the system is running.

This results in a page containing two elements. Metrics for the matching and an

▼ 0103spot_29: kid_143

Age: 2
District: Fyllingsdalen
Siblings: 2

Basic information about the child.

Priority (score):
    1. Marken barnehage (2)
    2. Bogane barnehage (3)
    3. Aurdalslia barnehage (2)
    4. Brinken barnehage (5)
    5. Apeltun barnehage (2)
    6. Lyngfaret barnehage (2)
    7. Skjold barnehage (3)
    8. Sletten barnehage (2)
    9. Salhus barnehage (2)

The child's preferences of kindergartens. The number in the parentheses are the score given by the kindergarten.

No special considerations.

Here is will be described if the child has any special considerations that are taken into account in the scoring system.

▼ Log for kid_143:
Temporary spot: 0103spot_12.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_13.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_14.
Spot lost. Priority by kindergarten: 171(this) vs. 161(other)
Temporary spot: 0103spot_15.
Spot lost. Priority by kindergarten: 171(this) vs. 143(other)
Temporary spot: 0103spot_17.
Spot lost. Priority by kindergarten: 171(this) vs. 161(other)
Temporary spot: 0103spot_18.
Spot lost. Priority by kindergarten: 171(this) vs. 153(other)
Temporary spot: 0103spot_20.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_21.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_22.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_23.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_24.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_26.
Spot lost. Priority by kindergarten: 171(this) vs. 166(other)
Temporary spot: 0103spot_27.
Spot lost. Priority by kindergarten: 171(this) vs. 161(other)
Temporary spot: 0103spot_29.

The log of how the child was handled by the algorithm. Every line describes an action by the algorithm.

2

INTERACTING WITH THE OBJECTS

It is possible to interact with the object in the console of the web-browser. The list of kindergartens and children are global objects, and accessable by typing (in the console):

kindergartens (for kindergartens) (last in this list is the waitinglist)

matched (for all the children)

EXAMPLE

Typing: kindergartens[4] gives the fifth kindergarten in the list:

```
> kindergartens[4]
⬅  ▼ Kindergarten {name: "Lyngfaret barnehage", id: "0105", district:
     "Laksevåg", spots: 30, priority: Array(250), …} ℹ
     ▶ applicants: (250) [Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, K…
       district: "Laksevåg"
       id: "0105"
       name: "Lyngfaret barnehage"
     ▶ priority: (250) [Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid, Kid…
     ▶ priority_text: (250) ["kid_188", "kid_127", "kid_159", "kid_141", "kid…
     ▶ results: {0105spot_0: Kid, 0105spot_1: Kid, 0105spot_2: Kid, 0105spot_…
     ▶ spotCollection: {0105spot_0: Array(250), 0105spot_1: Array(250), 0105s…
     ▶ spotCollection_text: (30) ["0105spot_0", "0105spot_1", "0105spot_2", "…
       spots: 30
     ▶ __proto__: Object
```

Here it is possible to inspect the kindergarten object. There is a lot of different information in the object. The most important is priority and results. This gives information of who the kindergarten has prioritized for their spots, and the finished matching with the child object that has matched for the spot.

Typing: matched[100] gives the 101st child that was matched to a kindergarten spot:

```
> matched[100]
⬅  ▼ Kid {values: {…}, siblingsKG: Array(1), siblingsCount: 1, district:
     "Ytrebygda", age: 3, …} ℹ
       age: 3
     ▶ calculateScore: ƒ ()
       district: "Ytrebygda"
     ▶ fullPriorityList: (250) ["0102spot_0", "0102spot_1", "0102spot_2", "01…
     ▶ getPriority: ƒ ()
       gottenPriority: 0
       id: "kid_106"
     ▶ kindergarten: Kindergarten {name: "Bogane barnehage", id: "0102", dist…
     ▶ log: (12) ["Log for kid_106:", "Temporary spot: 0102spot_1.", "Spot lo…
     ▶ priority: (9) [Kindergarten, Kindergarten, Kindergarten, Kindergarten,…
     ▶ priority_text: (9) ["Bogane barnehage", "Aurdalslia barnehage", "Salhu…
     ▶ report: ƒ ()
     ▶ score: (9) [4, 8, 4, 4, 4, 4, 4, 4, 4]
       siblingsCount: 1
     ▶ siblingsKG: ["Aurdalslia barnehage"]
       spot: "0102spot_8"
       tempScore: 4
       timesReassigned: 5
     ▶ values: {childServices: 1}
     ▶ __proto__: Object
```

Here it is possible to inspect the child object. There is a lot of different information in the object. The most important is priority and score. This gives information of the priorities the child has for kindergartens, and the different scores that the kindergartens have given the child.

3