Analysis of my AHP method vs Manual's AHP method
Hillary Tao

APP4WE -Montréal-Phase1_2020 10 26.xlsx results

Data Description: 29 participants

Introduction: Pairwise comparison matrix, priority vector (weights) and consistency index for the criterias were calculated. I am assuming that if 9999 is the answer for question 6, then there are 6 criterias; if 9999 is the answer for question 5 and 6, then there are 5 criterias; and finally, if neither question 5 nor 6 have 9999 as the answer, then there are 7 criterias to take into account.

ahp.py:

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Participant #1
preprocessed answers: [1, 1, 4, 5, 9, 9999, 5, 6, 5, 9, 9999, 1, 5, 9, 9999, 1, 1,
9999, 1, 9999, 9999]
processed answers: [1, 1, 4, 5, 9, 5, 6, 5, 9, 1, 5, 9, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.26259109+0.j 0.39506306+0.j 0.18157778+0.j 0.07210624+0.j
 0.05000692+0.j 0.03865491+0.j]
Consistency Ratio (0.08657263926603855+0j)


Participant #2
preprocessed answers: [9, 8, 9, 9, 9999, 9999, 9, 1, 8, 9999, 9999, 9, 8, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 8, 9, 9, 9, 1, 8, 9, 8, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56904237+0.j 0.21670289+0.j 0.12868613+0.j 0.06827149+0.j
 0.01729712+0.j]
Consistency Ratio (0.5221573448106449+0j)
Bad consistency Ratio

Participant #3
preprocessed answers: [7, 3, 3, 3, 9999, 9999, 5, 5, 5, 9999, 9999, 1, 6, 9999, 9999,
2, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 3, 3, 3, 5, 5, 5, 1, 6, 2]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48936922+0.j 0.2564886 +0.j 0.11763295+0.j 0.08372588+0.j
 0.05278334+0.j]
Consistency Ratio (0.24734352315681918+0j)
Bad consistency Ratio

Participant #4
preprocessed answers: [6, 6, 6, 5, 1, 9999, 6, 6, 5, 9999, 9999, 5, 4, 4, 9999, 4, 4,
9999, 1, 9999, 9999]
processed answers: [6, 6, 6, 5, 1, 6, 6, 5, 5, 4, 4, 4, 4, 1]
missing values for this participant

Participant #5
preprocessed answers: [6, 8, 9, 6, 9999, 9999, 9, 1, 5, 9999, 9999, 9, 6, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 9, 6, 9, 1, 5, 9, 6, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52342892+0.j 0.24075977+0.j 0.13858656+0.j 0.07024484+0.j
 0.02697991+0.j]
Consistency Ratio (0.48286529949994467+0j)
Bad consistency Ratio
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Participant #6
preprocessed answers: [2, 5, 4, 5, 5, 4, 3, 3, 3, 5, 3, 6, 3, 5, 4, 3, 6, 4, 3, 4, 4]
processed answers: [2, 5, 4, 5, 5, 4, 3, 3, 3, 5, 3, 6, 3, 5, 4, 3, 6, 4, 3, 4, 4]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.34001302-0.j 0.21582392-0.j 0.18549192-0.j 0.10921854-0.j
 0.0695492 -0.j 0.0447647 -0.j 0.03513871-0.j]
Consistency Ratio (0.16270679805837585+0j)
Bad consistency Ratio

Participant #7
preprocessed answers: [1, 7, 7, 1, 7, 9999, 7, 7, 1, 7, 9999, 1, 7, 1, 9999, 7, 1,
9999, 7, 9999, 9999]
processed answers: [1, 7, 7, 1, 7, 7, 7, 1, 7, 1, 7, 1, 7, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.29737295+0.j 0.29737295+0.j 0.12533582+0.j 0.12533582+0.j
 0.1121006 +0.j 0.04248185+0.j]
Consistency Ratio (0.49661303305818677+0j)
Bad consistency Ratio

Participant #8
preprocessed answers: [1, 5, 4, 5, 9999, 9999, 1, 1, 1, 9999, 9999, 5, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 5, 4, 5, 1, 1, 1, 5, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.41821695-0.j 0.16420896-0.j 0.23149343-0.j 0.12343802-0.j
 0.06264264-0.j]
Consistency Ratio (0.21971811600672694+0j)
Bad consistency Ratio

Participant #9
preprocessed answers: [7, 6, 6, 1, 1, 9999, 4, 1, 4, 4, 9999, 4, 1, 1, 9999, 3, 3,
9999, 1, 9999, 9999]
processed answers: [7, 6, 6, 1, 1, 4, 1, 4, 4, 4, 1, 1, 3, 3, 1]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.39637612+0.j 0.18873599+0.j 0.10726925+0.j 0.1178589 +0.j
 0.09487987+0.j 0.09487987+0.j]
Consistency Ratio (0.33630437828856063+0j)
Bad consistency Ratio

Participant #10
preprocessed answers: [3, 8, 6, 6, 9999, 9999, 8, 1, 8, 9999, 9999, 2, 1, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 8, 6, 6, 8, 1, 8, 2, 1, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48772782+0.j 0.25147063+0.j 0.08079519+0.j 0.13855589+0.j
 0.04145047+0.j]
Consistency Ratio (0.21904579775139288+0j)
Bad consistency Ratio

Participant #11
preprocessed answers: [7, 9, 9, 7, 8, 9999, 9, 6, 6, 7, 9999, 9, 8, 9, 9, 9999, 7, 6,
7, 9999, 9999]
processed answers: [7, 9, 9, 7, 8, 9, 6, 6, 7, 9, 8, 9, 9, 7, 6, 7]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.50125187+0.j 0.25271202+0.j 0.13504325+0.j 0.06424741+0.j
 0.03032107+0.j 0.01642437+0.j]
Consistency Ratio (0.4231778408856101+0j)
Bad consistency Ratio

Participant #12
preprocessed answers: [5, 1, 1, 1, 1, 5, 9, 9, 1, 9, 8, 1, 8, 1, 9, 9, 8, 9, 1, 8, 9]
processed answers: [5, 1, 1, 1, 1, 5, 9, 9, 1, 9, 8, 1, 8, 1, 9, 9, 8, 9, 1, 8, 9]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.22004029+0.j 0.33951745+0.j 0.12241338+0.j 0.16781623+0.j
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 0.0764891 +0.j 0.06017878+0.j 0.01354476+0.j]
Consistency Ratio (0.4684112992341926+0j)
Bad consistency Ratio

Participant #13
preprocessed answers: [4, 6, 6, 1, 9999, 9999, 9, 6, 6, 9999, 9999, 9, 1, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [4, 6, 6, 1, 9, 6, 6, 9, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.37218483+0.j 0.31996535+0.j 0.13709776+0.j 0.09240031+0.j
 0.07835175+0.j]
Consistency Ratio (0.6752098673659077+0j)
Bad consistency Ratio

Participant #14
preprocessed answers: [1, 1, 1, 1, 9999, 9999, 1, 1, 1, 9999, 9999, 1, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[ 5.37085595e+15 -1.34271399e+15 -1.34271399e+15 -1.34271399e+15
 -1.34271399e+15]
Consistency Ratio -1.7906822977825107e-16


Participant #15
preprocessed answers: [1, 1, 1, 5, 9999, 9999, 1, 1, 7, 9999, 9999, 1, 6, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 1, 5, 1, 1, 7, 1, 6, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.23572313-0.j 0.26150487-0.j 0.248614  -0.j 0.18415963-0.j
 0.06999836-0.j]
Consistency Ratio (0.08670798296522395+0j)


Participant #16
preprocessed answers: [5, 8, 4, 6, 6, 9999, 1, 3, 2, 1, 9999, 2, 2, 2, 9999, 2, 4,
9999, 9999, 9999, 9999]
processed answers: [5, 8, 4, 6, 6, 1, 3, 2, 1, 2, 2, 2, 2, 4]
missing values for this participant

Participant #17
preprocessed answers: [6, 8, 5, 5, 5, 9999, 9, 9, 2, 7, 9999, 7, 7, 6, 9999, 9, 6,
9999, 6, 9999, 9999]
processed answers: [6, 8, 5, 5, 5, 9, 9, 2, 7, 7, 7, 6, 9, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.43185563-0.j 0.28044211-0.j 0.13691526-0.j 0.08333021-0.j
 0.04656018-0.j 0.02089661-0.j]
Consistency Ratio (0.48158333067653414+0j)
Bad consistency Ratio

Participant #18
preprocessed answers: [8, 9, 6, 3, 7, 9, 7, 6, 4, 3, 9999, 3, 6, 4, 9999, 6, 4, 9999,
3, 9999, 9999]
processed answers: [8, 9, 6, 3, 7, 9, 7, 6, 4, 3, 9999, 3, 6, 4, 9999, 6, 4, 9999, 3,
9999, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.15580337-0.j 0.21663088-0.j 0.18075957-0.j 0.16902003-0.j
 0.14322572-0.j 0.13408879-0.j 0.00047165-0.j]
Consistency Ratio (3.6505116481574373+0j)
Bad consistency Ratio

Participant #19
preprocessed answers: [7, 7, 1, 7, 9999, 9999, 6, 6, 7, 9999, 9999, 7, 8, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 7, 1, 7, 6, 6, 7, 7, 8, 7]
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Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.46844676-0.j 0.25936438-0.j 0.14933906-0.j 0.10216453-0.j
 0.02068527-0.j]
Consistency Ratio (0.5311386341016334+0j)
Bad consistency Ratio

Participant #20
preprocessed answers: [1, 8, 4, 7, 9, 7, 7, 4, 7, 8, 4, 7, 7, 8, 7, 7, 8, 4, 1, 4, 1]
processed answers: [1, 8, 4, 7, 9, 7, 7, 4, 7, 8, 4, 7, 7, 8, 7, 7, 8, 4, 1, 4, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.34375841-0.j 0.31262111-0.j 0.17066322-0.j 0.09105062-0.j
 0.03347633-0.j 0.02196521-0.j 0.0264651 -0.j]
Consistency Ratio (0.20523230891712607+0j)
Bad consistency Ratio

Participant #21
preprocessed answers: [7, 6, 8, 8, 9999, 9999, 6, 6, 6, 9999, 9999, 7, 6, 9999, 9999,
5, 9999, 9999, 9, 9999, 9999]
processed answers: [7, 6, 8, 8, 6, 6, 6, 7, 6, 5, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56593271-0.j 0.23784714-0.j 0.12050468-0.j 0.04919183-0.j
 0.02652364-0.j]
Consistency Ratio (0.2600442424073587+0j)
Bad consistency Ratio

Participant #22
preprocessed answers: [2, 7, 7, 2, 9999, 9999, 4, 4, 4, 9999, 9999, 5, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [2, 7, 7, 2, 4, 4, 4, 5, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.4293063 -0.j 0.25985664-0.j 0.1637808 -0.j 0.08969134-0.j
 0.05736493-0.j]
Consistency Ratio (0.3247563347698823+0j)
Bad consistency Ratio

Participant #23
preprocessed answers: [1, 3, 1, 3, 9999, 9999, 4, 1, 6, 9999, 9999, 3, 4, 9999, 9999,
3, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 3, 1, 3, 4, 1, 6, 3, 4, 3]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.26159993+0.j 0.32291902+0.j 0.19090838+0.j 0.17203244+0.j
 0.05254023+0.j]
Consistency Ratio (0.1378748716686185+0j)
Bad consistency Ratio

Participant #24
preprocessed answers: [8, 7, 1, 1, 9999, 9999, 8, 8, 7, 9999, 9999, 1, 7, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 7, 1, 1, 8, 8, 7, 1, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.41875108+0.j 0.29678908+0.j 0.08913279+0.j 0.13074098+0.j
 0.06458606+0.j]
Consistency Ratio (0.7311319367115144+0j)
Bad consistency Ratio

Participant #25
preprocessed answers: [8, 6, 5, 5, 9999, 9999, 7, 7, 4, 9999, 9999, 4, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 6, 5, 5, 7, 7, 4, 4, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.55218245-0.j 0.24599772-0.j 0.10143037-0.j 0.06362866-0.j
 0.0367608 -0.j]
Consistency Ratio (0.3175746724056298+0j)
Bad consistency Ratio
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Participant #26
preprocessed answers: [8, 7, 7, 7, 9999, 9999, 8, 7, 1, 9999, 9999, 4, 7, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 7, 7, 7, 8, 7, 1, 4, 7, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53505281-0.j 0.23131183-0.j 0.11358228-0.j 0.06857254-0.j
 0.05148054-0.j]
Consistency Ratio (0.5070839745880339+0j)
Bad consistency Ratio

Participant #27
preprocessed answers: [5, 5, 5, 4, 5, 4, 4, 3, 3, 4, 4, 4, 4, 5, 5, 4, 1, 1, 4, 4, 4]
processed answers: [5, 5, 5, 4, 5, 4, 4, 3, 3, 4, 4, 4, 4, 5, 5, 4, 1, 1, 4, 4, 4]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.38763443+0.j 0.20443512+0.j 0.15973628+0.j 0.07771489+0.j
 0.07814261+0.j 0.05407445+0.j 0.03826222+0.j]
Consistency Ratio (0.1889427457428354+0j)
Bad consistency Ratio

Participant #28
preprocessed answers: [7, 1, 1, 9, 9999, 9999, 7, 5, 5, 9999, 1, 7, 9999, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 1, 1, 9, 7, 5, 5, 1, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.42408175-0.j 0.29216245-0.j 0.12867614-0.j 0.13108025-0.j
 0.02399941-0.j]
Consistency Ratio (0.3920050088878576+0j)
Bad consistency Ratio

Participant #29
preprocessed answers: [1, 1, 4, 1, 6, 9999, 1, 4, 1, 6, 9999, 4, 1, 6, 9999, 4, 4,
9999, 9, 9999, 9999]
processed answers: [1, 1, 4, 1, 6, 1, 4, 1, 6, 4, 1, 6, 4, 4, 9]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.22289334+0.j 0.22289334+0.j 0.22289334+0.j 0.14793723+0.j
 0.15615367+0.j 0.02722906+0.j]
Consistency Ratio (0.16490896773018063+0j)
Bad consistency Ratio
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ahpv2.py:

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Participant #1
preprocessed answers: [1, 1, 4, 5, 9, 9999, 5, 6, 5, 9, 9999, 1, 5, 9, 9999, 1, 1,
9999, 1, 9999, 9999]
processed answers: [1, 1, 4, 5, 9, 5, 6, 5, 9, 1, 5, 9, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.26259109 0.39506306 0.18157778 0.07210624 0.05000692 0.03865491]
Inconsistency index of the criteria:  0.0921579708315894


Participant #2
preprocessed answers: [9, 8, 9, 9, 9999, 9999, 9, 1, 8, 9999, 9999, 9, 8, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 8, 9, 9, 9, 1, 8, 9, 8, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56904237 0.21670289 0.12868613 0.06827149 0.01729712]
Inconsistency index of the criteria:  0.5781027746117854
The pairwise comparison matrix of the criteria is inconsistent

Participant #3
preprocessed answers: [7, 3, 3, 3, 9999, 9999, 5, 5, 5, 9999, 9999, 1, 6, 9999, 9999,
2, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 3, 3, 3, 5, 5, 5, 1, 6, 2]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48936922 0.2564886  0.11763295 0.08372588 0.05278334]
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Inconsistency index of the criteria:  0.2738446149236212
The pairwise comparison matrix of the criteria is inconsistent

Participant #4
preprocessed answers: [6, 6, 6, 5, 1, 9999, 6, 6, 5, 9999, 9999, 5, 4, 4, 9999, 4, 4,
9999, 1, 9999, 9999]
processed answers: [6, 6, 6, 5, 1, 6, 6, 5, 5, 4, 4, 4, 4, 1]
missing values for this participant

Participant #5
preprocessed answers: [6, 8, 9, 6, 9999, 9999, 9, 1, 5, 9999, 9999, 9, 6, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 9, 6, 9, 1, 5, 9, 6, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52342892 0.24075977 0.13858656 0.07024484 0.02697991]
Inconsistency index of the criteria:  0.5346008673035101
The pairwise comparison matrix of the criteria is inconsistent

Participant #6
preprocessed answers: [2, 5, 4, 5, 5, 4, 3, 3, 3, 5, 3, 6, 3, 5, 4, 3, 6, 4, 3, 4, 4]
processed answers: [2, 5, 4, 5, 5, 4, 3, 3, 3, 5, 3, 6, 3, 5, 4, 3, 6, 4, 3, 4, 4]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.34001302 0.21582392 0.18549192 0.10921854 0.0695492  0.0447647
 0.03513871]
Inconsistency index of the criteria:  0.17380044338053782
The pairwise comparison matrix of the criteria is inconsistent

Participant #7
preprocessed answers: [1, 7, 7, 1, 7, 9999, 7, 7, 1, 7, 9999, 1, 7, 1, 9999, 7, 1,
9999, 7, 9999, 9999]
processed answers: [1, 7, 7, 1, 7, 7, 7, 1, 7, 1, 7, 1, 7, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.29737295 0.29737295 0.12533582 0.12533582 0.1121006  0.04248185]
Inconsistency index of the criteria:  0.5286525835780698
The pairwise comparison matrix of the criteria is inconsistent

Participant #8
preprocessed answers: [1, 5, 4, 5, 9999, 9999, 1, 1, 1, 9999, 9999, 5, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 5, 4, 5, 1, 1, 1, 5, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.41821695 0.16420896 0.23149343 0.12343802 0.06264264]
Inconsistency index of the criteria:  0.24325934272173336
The pairwise comparison matrix of the criteria is inconsistent

Participant #9
preprocessed answers: [7, 6, 6, 1, 1, 9999, 4, 1, 4, 4, 9999, 4, 1, 1, 9999, 3, 3,
9999, 1, 9999, 9999]
processed answers: [7, 6, 6, 1, 1, 4, 1, 4, 4, 4, 1, 1, 3, 3, 1]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.39637612 0.18873599 0.10726925 0.1178589  0.09487987 0.09487987]
Inconsistency index of the criteria:  0.3580014349523387
The pairwise comparison matrix of the criteria is inconsistent

Participant #10
preprocessed answers: [3, 8, 6, 6, 9999, 9999, 8, 1, 8, 9999, 9999, 2, 1, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 8, 6, 6, 8, 1, 8, 2, 1, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48772782 0.25147063 0.08079519 0.13855589 0.04145047]
Inconsistency index of the criteria:  0.2425149903676135
The pairwise comparison matrix of the criteria is inconsistent

Participant #11
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preprocessed answers: [7, 9, 9, 7, 8, 9999, 9, 6, 6, 7, 9999, 9, 8, 9, 9, 9999, 7, 6,
7, 9999, 9999]
processed answers: [7, 9, 9, 7, 8, 9, 6, 6, 7, 9, 8, 9, 9, 7, 6, 7]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.50125187 0.25271202 0.13504325 0.06424741 0.03032107 0.01642437]
Inconsistency index of the criteria:  0.4504796370717785
The pairwise comparison matrix of the criteria is inconsistent

Participant #12
preprocessed answers: [5, 1, 1, 1, 1, 5, 9, 9, 1, 9, 8, 1, 8, 1, 9, 9, 8, 9, 1, 8, 9]
processed answers: [5, 1, 1, 1, 1, 5, 9, 9, 1, 9, 8, 1, 8, 1, 9, 9, 8, 9, 1, 8, 9]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.22004029 0.33951745 0.12241338 0.16781623 0.0764891  0.06017878
 0.01354476]
Inconsistency index of the criteria:  0.5003484332728876
The pairwise comparison matrix of the criteria is inconsistent

Participant #13
preprocessed answers: [4, 6, 6, 1, 9999, 9999, 9, 6, 6, 9999, 9999, 9, 1, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [4, 6, 6, 1, 9, 6, 6, 9, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.37218483 0.31996535 0.13709776 0.09240031 0.07835175]
Inconsistency index of the criteria:  0.7475537817265406
The pairwise comparison matrix of the criteria is inconsistent

Participant #14
preprocessed answers: [1, 1, 1, 1, 9999, 9999, 1, 1, 1, 9999, 9999, 1, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.2 0.2 0.2 0.2 0.2]
Inconsistency index of the criteria:  -1.982541115402065e-16


Participant #15
preprocessed answers: [1, 1, 1, 5, 9999, 9999, 1, 1, 7, 9999, 9999, 1, 6, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 1, 5, 1, 1, 7, 1, 6, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.23572313 0.26150487 0.248614   0.18415963 0.06999836]
Inconsistency index of the criteria:  0.0959981239972122


Participant #16
preprocessed answers: [5, 8, 4, 6, 6, 9999, 1, 3, 2, 1, 9999, 2, 2, 2, 9999, 2, 4,
9999, 9999, 9999, 9999]
processed answers: [5, 8, 4, 6, 6, 1, 3, 2, 1, 2, 2, 2, 2, 4]
missing values for this participant

Participant #17
preprocessed answers: [6, 8, 5, 5, 5, 9999, 9, 9, 2, 7, 9999, 7, 7, 6, 9999, 9, 6,
9999, 6, 9999, 9999]
processed answers: [6, 8, 5, 5, 5, 9, 9, 2, 7, 7, 7, 6, 9, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.43185563 0.28044211 0.13691526 0.08333021 0.04656018 0.02089661]
Inconsistency index of the criteria:  0.5126532229782459
The pairwise comparison matrix of the criteria is inconsistent

Participant #18
preprocessed answers: [8, 9, 6, 3, 7, 9, 7, 6, 4, 3, 9999, 3, 6, 4, 9999, 6, 4, 9999,
3, 9999, 9999]
processed answers: [8, 9, 6, 3, 7, 9, 7, 6, 4, 3, 9999, 3, 6, 4, 9999, 6, 4, 9999, 3,
9999, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
```

```
[0.15580337 0.21663088 0.18075957 0.16902003 0.14322572 0.13408879
 0.00047165]
Inconsistency index of the criteria:  3.899410169622717
The pairwise comparison matrix of the criteria is inconsistent

Participant #19
preprocessed answers: [7, 7, 1, 7, 9999, 9999, 6, 6, 7, 9999, 9999, 7, 8, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 7, 1, 7, 6, 6, 7, 7, 8, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.46844676 0.25936438 0.14933906 0.10216453 0.02068527]
Inconsistency index of the criteria:  0.5880463448982369
The pairwise comparison matrix of the criteria is inconsistent

Participant #20
preprocessed answers: [1, 8, 4, 7, 9, 7, 7, 4, 7, 8, 4, 7, 7, 8, 7, 7, 8, 4, 1, 4, 1]
processed answers: [1, 8, 4, 7, 9, 7, 7, 4, 7, 8, 4, 7, 7, 8, 7, 7, 8, 4, 1, 4, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.34375841 0.31262111 0.17066322 0.09105062 0.03347633 0.02196521
 0.0264651 ]
Inconsistency index of the criteria:  0.2192254208887483
The pairwise comparison matrix of the criteria is inconsistent

Participant #21
preprocessed answers: [7, 6, 8, 8, 9999, 9999, 6, 6, 6, 9999, 9999, 7, 6, 9999, 9999,
5, 9999, 9999, 9, 9999, 9999]
processed answers: [7, 6, 8, 8, 6, 6, 6, 7, 6, 5, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56593271 0.23784714 0.12050468 0.04919183 0.02652364]
Inconsistency index of the criteria:  0.2879061255224328
The pairwise comparison matrix of the criteria is inconsistent

Participant #22
preprocessed answers: [2, 7, 7, 2, 9999, 9999, 4, 4, 4, 9999, 9999, 5, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [2, 7, 7, 2, 4, 4, 4, 5, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.4293063  0.25985664 0.1637808  0.08969134 0.05736493]
Inconsistency index of the criteria:  0.3595516563523697
The pairwise comparison matrix of the criteria is inconsistent

Participant #23
preprocessed answers: [1, 3, 1, 3, 9999, 9999, 4, 1, 6, 9999, 9999, 3, 4, 9999, 9999,
3, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 3, 1, 3, 4, 1, 6, 3, 4, 3]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.26159993 0.32291902 0.19090838 0.17203244 0.05254023]
Inconsistency index of the criteria:  0.15264717934739902
The pairwise comparison matrix of the criteria is inconsistent

Participant #24
preprocessed answers: [8, 7, 1, 1, 9999, 9999, 8, 8, 7, 9999, 9999, 1, 7, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 7, 1, 1, 8, 8, 7, 1, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.41875108 0.29678908 0.08913279 0.13074098 0.06458606]
Inconsistency index of the criteria:  0.8094675013591766
The pairwise comparison matrix of the criteria is inconsistent

Participant #25
preprocessed answers: [8, 6, 5, 5, 9999, 9999, 7, 7, 4, 9999, 9999, 4, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 6, 5, 5, 7, 7, 4, 4, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.55218245 0.24599772 0.10143037 0.06362866 0.0367608 ]
```

```
Inconsistency index of the criteria:  0.3516005301633758
The pairwise comparison matrix of the criteria is inconsistent

Participant #26
preprocessed answers: [8, 7, 7, 7, 9999, 9999, 8, 7, 1, 9999, 9999, 4, 7, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 7, 7, 7, 8, 7, 1, 4, 7, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53505281 0.23131183 0.11358228 0.06857254 0.05148054]
Inconsistency index of the criteria:  0.5614144004367517
The pairwise comparison matrix of the criteria is inconsistent

Participant #27
preprocessed answers: [5, 5, 5, 4, 5, 4, 4, 3, 3, 4, 4, 4, 4, 5, 5, 4, 1, 1, 4, 4, 4]
processed answers: [5, 5, 5, 4, 5, 4, 4, 3, 3, 4, 4, 4, 4, 5, 5, 4, 1, 1, 4, 4, 4]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.38763443 0.20443512 0.15973628 0.07771489 0.07814261 0.05407445
 0.03826222]
Inconsistency index of the criteria:  0.20182520567984694
The pairwise comparison matrix of the criteria is inconsistent

Participant #28
preprocessed answers: [7, 1, 1, 9, 9999, 9999, 7, 5, 5, 9999, 1, 7, 9999, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 1, 1, 9, 7, 5, 5, 1, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.42408175 0.29216245 0.12867614 0.13108025 0.02399941]
Inconsistency index of the criteria:  0.43400554555441373
The pairwise comparison matrix of the criteria is inconsistent

Participant #29
preprocessed answers: [1, 1, 4, 1, 6, 9999, 1, 4, 1, 6, 9999, 4, 1, 6, 9999, 4, 4,
9999, 9, 9999, 9999]
processed answers: [1, 1, 4, 1, 6, 1, 4, 1, 6, 4, 1, 6, 4, 4, 9]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.22289334 0.22289334 0.22289334 0.14793723 0.15615367 0.02722906]
Inconsistency index of the criteria:  0.17554825597083742
The pairwise comparison matrix of the criteria is inconsistent
```

Discussion: Overall, the consistency index found using the manual's method (ahpv2.py) is not much different from mine (ahp.py). They have minimal differences at the third decimal number. Sometimes one will be higher than the other, but not by an alarming amount.

APP4WE-Québec-Phase1_2020 10 26.xlsx results

Data Description: 38 participants

Introduction: Pairwise comparison matrix, priority vector (weights) and consistency index for criteria were calculated. I am assuming that if 9999 is the answer for question 6, then there are 6 criteria; if 9999 is the answer for question 5 and 6, then there are 5 criteria; and finally, if neither question 5 nor 6 have 9999 as the answer, then there are 7 criteria to take into account.

ahp.py:

```
Participant #1
preprocessed answers: [6, 7, 6, 6, 1, 9999, 6, 1, 5, 5, 9999, 6, 6, 1, 9999, 5, 5,
9999, 6, 9999, 9999]
```

```
processed answers: [6, 7, 6, 6, 1, 6, 1, 5, 5, 6, 6, 1, 5, 5, 6]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.39599449+0.j 0.20358978+0.j 0.14606389+0.j 0.11498637+0.j
 0.06774965+0.j 0.07161581+0.j]
Consistency Ratio (0.5479283045773206+0j)
Bad consistency Ratio

Participant #2
preprocessed answers: [3, 4, 4, 7, 9999, 9999, 4, 4, 7, 9999, 9999, 6, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 4, 4, 7, 4, 4, 7, 6, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.43528547+0.j 0.28559087+0.j 0.16950649+0.j 0.07756211+0.j
 0.03205506+0.j]
Consistency Ratio (0.15205565243709795+0j)
Bad consistency Ratio

Participant #3
preprocessed answers: [7, 7, 7, 1, 9999, 9999, 7, 7, 7, 9999, 9999, 7, 7, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 7, 7, 1, 7, 7, 7, 7, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.44772605+0.j 0.26662769+0.j 0.14258403+0.j 0.07624942+0.j
 0.06681281+0.j]
Consistency Ratio (0.7538706948314998+0j)
Bad consistency Ratio

Participant #4
preprocessed answers: [6, 8, 9, 5, 9999, 9999, 8, 8, 8, 9999, 9999, 8, 1, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 9, 5, 8, 8, 8, 8, 1, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.51467588-0.j 0.27616412-0.j 0.10421435-0.j 0.06571496-0.j
 0.03923069-0.j]
Consistency Ratio (0.4777450955081097 3+0j)
Bad consistency Ratio

Participant #5
preprocessed answers: [9, 8, 9, 9, 8, 8, 8, 9, 9, 1, 1, 1, 9, 1, 1, 9, 9, 9, 8, 8, 1]
processed answers: [9, 8, 9, 9, 8, 8, 8, 9, 9, 1, 1, 1, 9, 1, 1, 9, 9, 9, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.441573  +0.j 0.2197384 +0.j 0.07656737+0.j 0.12520703+0.j
 0.06256396+0.j 0.03717512+0.j 0.03717512+0.j]
Consistency Ratio (0.5957338412583032+0j)
Bad consistency Ratio

Participant #6
preprocessed answers: [6, 4, 6, 6, 9999, 9999, 8, 8, 6, 9999, 9999, 1, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 4, 6, 6, 8, 8, 6, 1, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52017122-0.j 0.29223989-0.j 0.08180895-0.j 0.07484002-0.j
 0.03093992-0.j]
Consistency Ratio (0.24599138551024585+0j)
Bad consistency Ratio

Participant #7
preprocessed answers: [5, 5, 5, 5, 9999, 9999, 5, 7, 5, 9999, 9999, 7, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 5, 5, 5, 5, 7, 5, 7, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48397433-0.j 0.27135389-0.j 0.1452787 -0.j 0.06323407-0.j
 0.036159  -0.j]
Consistency Ratio (0.26837224701173534+0j)
Bad consistency Ratio
```

```
Participant #8
preprocessed answers: [3, 3, 2, 3, 9999, 9999, 3, 3, 3, 9999, 9999, 3, 3, 9999, 9999,
3, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 3, 2, 3, 3, 3, 3, 3, 3, 3]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.3813017 +0.j 0.26241388+0.j 0.16982117+0.j 0.11830867+0.j
 0.06815458+0.j]
Consistency Ratio (0.11240115089304678+0j)
Bad consistency Ratio

Participant #9
preprocessed answers: [9, 9, 5, 9, 9999, 9999, 9, 5, 5, 9999, 9999, 7, 8, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 9, 5, 9, 9, 5, 5, 7, 8, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.59010902-0.j 0.23229279-0.j 0.10510427-0.j 0.04965392-0.j
 0.02284   -0.j]
Consistency Ratio (0.38605738569819603+0j)
Bad consistency Ratio

Participant #10
preprocessed answers: [8, 1, 3, 7, 3, 3, 5, 1, 7, 3, 3, 5, 6, 1, 5, 2, 1, 4, 4, 4, 5]
processed answers: [8, 1, 3, 7, 3, 3, 5, 1, 7, 3, 3, 5, 6, 1, 5, 2, 1, 4, 4, 4, 5]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.35026161+0.j 0.2144806 +0.j 0.17436728+0.j 0.0843481 +0.j
 0.06908822+0.j 0.07462732+0.j 0.03282687+0.j]
Consistency Ratio (0.28606338736204406+0j)
Bad consistency Ratio

Participant #11
preprocessed answers: [3, 5, 4, 6, 9999, 9999, 5, 4, 5, 9999, 9999, 5, 1, 9999, 9999,
4, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 5, 4, 6, 5, 4, 5, 5, 1, 4]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.44106997+0.j 0.28634988+0.j 0.12860744+0.j 0.08736341+0.j
 0.0566093 +0.j]
Consistency Ratio (0.19514331431552054+0j)
Bad consistency Ratio

Participant #12
preprocessed answers: [7, 8, 7, 5, 9999, 9999, 7, 8, 5, 9999, 9999, 8, 8, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 8, 7, 5, 7, 8, 5, 8, 8, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53458109-0.j 0.25207946-0.j 0.12721879-0.j 0.05713941-0.j
 0.02898125-0.j]
Consistency Ratio (0.4483704648562905+0j)
Bad consistency Ratio

Participant #13
preprocessed answers: [1, 4, 5, 5, 9999, 9999, 5, 5, 5, 9999, 9999, 1, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 4, 5, 5, 5, 5, 5, 1, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.35846474+0.j 0.37902669+0.j 0.111213  +0.j 0.1078992 +0.j
 0.04339637+0.j]
Consistency Ratio (0.08239527193958428+0j)


Participant #14
preprocessed answers: [5, 4, 2, 4, 9999, 9999, 5, 4, 5, 9999, 9999, 5, 5, 9999, 9999,
2, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 4, 2, 4, 5, 4, 5, 5, 5, 2]
Priority vertex (weights of criterias) from criteria 1 to 5 :
```

```
[0.44813258-0.j 0.27210675-0.j 0.15382353-0.j 0.08009451-0.j
 0.04584263-0.j]
Consistency Ratio (0.23703073081840698+0j)
Bad consistency Ratio

Participant #15
preprocessed answers: [3, 9, 9, 9, 9999, 9999, 9, 9, 3, 9999, 9999, 1, 7, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 9, 9, 9, 9, 9, 3, 1, 7, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.49329519-0.j 0.31369717-0.j 0.07482723-0.j 0.08511375-0.j
 0.03306666-0.j]
Consistency Ratio (0.2881296388770556+0j)
Bad consistency Ratio

Participant #16
preprocessed answers: [9, 5, 7, 5, 3, 9999, 9, 5, 7, 7, 9999, 7, 9, 5, 9999, 3, 9999,
9999, 9999, 9999, 9999]
processed answers: [9, 5, 7, 5, 3, 9, 5, 7, 7, 7, 9, 5, 3]
missing values for this participant

Participant #17
preprocessed answers: [3, 5, 7, 5, 3, 9999, 5, 5, 1, 9999, 9999, 1, 3, 9999, 9999, 3,
9999, 9999, 9999, 9999, 9999]
processed answers: [3, 5, 7, 5, 3, 5, 5, 1, 1, 3, 3]
missing values for this participant

Participant #18
preprocessed answers: [6, 6, 7, 4, 9999, 9999, 6, 8, 1, 9999, 9999, 5, 6, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 6, 7, 4, 6, 8, 1, 5, 6, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.46878193+0.j 0.24712426+0.j 0.13623409+0.j 0.08875918+0.j
 0.05910054+0.j]
Consistency Ratio (0.5516780288378392+0j)
Bad consistency Ratio

Participant #19
preprocessed answers: [8, 1, 1, 9, 8, 9999, 1, 1, 1, 9999, 9999, 1, 1, 9999, 9999, 1,
9999, 9999, 9999, 9999, 9999]
processed answers: [8, 1, 1, 9, 8, 1, 1, 1, 1, 1, 1]
missing values for this participant

Participant #20
preprocessed answers: [3, 8, 8, 4, 3, 3, 6, 8, 2, 9999, 9999, 4, 3, 9999, 9999, 7,
9999, 9999, 9999, 9999, 9999]
processed answers: [3, 8, 8, 4, 3, 3, 6, 8, 2, 9999, 9999, 4, 3, 9999, 9999, 7, 9999,
9999, 9999, 9999, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[3.25303465e-02+0.j 2.52404294e-01+0.j 2.39866886e-01+0.j
 2.39954868e-01+0.j 2.31333487e-01+0.j 3.84579512e-03+0.j
 6.43227970e-05+0.j]
Consistency Ratio (19.39512566758131+0j)
Bad consistency Ratio

Participant #21
preprocessed answers: [7, 8, 1, 1, 9999, 9999, 1, 8, 8, 9999, 9999, 8, 8, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 8, 1, 1, 1, 8, 8, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.43785031+0.j 0.20441756+0.j 0.20347986+0.j 0.07712613+0.j
 0.07712613+0.j]
Consistency Ratio (0.6730153891541792+0j)
Bad consistency Ratio
```

```
Participant #22
preprocessed answers: [8, 5, 7, 3, 9999, 9999, 7, 7, 4, 9999, 9999, 5, 7, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 5, 7, 3, 7, 7, 4, 5, 7, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52348096-0.j 0.25059868-0.j 0.12298852-0.j 0.05884124-0.j
 0.0440906 -0.j]
Consistency Ratio (0.41208662340404995+0j)
Bad consistency Ratio

Participant #23
preprocessed answers: [1, 5, 5, 8, 9999, 9999, 6, 6, 6, 9999, 9999, 6, 1, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 5, 5, 8, 6, 6, 6, 6, 1, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.36039922+0.j 0.37857937+0.j 0.13083092+0.j 0.080082  +0.j
 0.05010849+0.j]
Consistency Ratio (0.21952302148492708+0j)
Bad consistency Ratio

Participant #24
preprocessed answers: [1, 1, 7, 8, 9999, 9999, 8, 7, 8, 9999, 9999, 7, 9, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 7, 8, 8, 7, 8, 7, 9, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.25665699+0.j 0.4887786 +0.j 0.18630447+0.j 0.03584096+0.j
 0.03241898+0.j]
Consistency Ratio (0.1246593664697104+0j)
Bad consistency Ratio

Participant #25
preprocessed answers: [7, 4, 4, 5, 9999, 9999, 6, 6, 6, 9999, 9999, 6, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 4, 4, 5, 6, 6, 6, 6, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.50084123+0.j 0.26368957+0.j 0.1360345 +0.j 0.06779817+0.j
 0.03163652+0.j]
Consistency Ratio (0.3284696999318212+0j)
Bad consistency Ratio

Participant #26
preprocessed answers: [1, 7, 8, 8, 9999, 9999, 7, 7, 7, 9999, 9999, 7, 7, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 7, 8, 8, 7, 7, 7, 7, 7, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.39388123+0.j 0.37978665+0.j 0.1388227 +0.j 0.06233738+0.j
 0.02517204+0.j]
Consistency Ratio (0.24369552971309927+0j)
Bad consistency Ratio

Participant #27
preprocessed answers: [1, 1, 2, 2, 3, 3, 1, 2, 1, 3, 3, 1, 2, 2, 2, 2, 1, 1, 1, 1, 1]
processed answers: [1, 1, 2, 2, 3, 3, 1, 2, 1, 3, 3, 1, 2, 2, 2, 2, 1, 1, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.21826946+0.j 0.20405068+0.j 0.17696599+0.j 0.12351914+0.j
 0.10261946+0.j 0.08728764+0.j 0.08728764+0.j]
Consistency Ratio (0.02567093869775096+0j)


Participant #28
preprocessed answers: [7, 9, 7, 9, 9999, 9999, 9, 7, 9, 9999, 9999, 7, 1, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 9, 7, 9, 9, 7, 9, 7, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.55768429+0.j 0.26316474+0.j 0.08904227+0.j 0.05858978+0.j
```

```
 0.03151892+0.j]
Consistency Ratio (0.40005405204459865+0j)
Bad consistency Ratio

Participant #29
preprocessed answers: [9, 9, 9, 9, 9999, 9999, 9, 9, 4, 9999, 9999, 1, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 9, 9, 9, 9, 9, 4, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.66299678-0.j 0.21224257-0.j 0.03982428-0.j 0.03982428-0.j
 0.0451121 -0.j]
Consistency Ratio (0.11587230450958495+0j)
Bad consistency Ratio

Participant #30
preprocessed answers: [5, 1, 1, 3, 9999, 9999, 3, 1, 1, 9999, 9999, 7, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 1, 1, 3, 3, 1, 1, 7, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.31315834+0.j 0.19339117+0.j 0.24868427+0.j 0.12204299+0.j
 0.12272323+0.j]
Consistency Ratio (0.29178494342096334+0j)
Bad consistency Ratio

Participant #31
preprocessed answers: [8, 6, 9, 2, 9, 9999, 2, 8, 1, 9, 9999, 8, 4, 8, 9999, 8, 1,
9999, 9, 9999, 9999]
processed answers: [8, 6, 9, 2, 9, 2, 8, 1, 9, 8, 4, 8, 8, 1, 9]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.44917165+0.j 0.17697187+0.j 0.1744856 +0.j 0.0939812 +0.j
 0.08169026+0.j 0.02369942+0.j]
Consistency Ratio (0.4855188116143145+0j)
Bad consistency Ratio

Participant #32
preprocessed answers: [5, 8, 7, 3, 9999, 9999, 9999, 7, 3, 9999, 9999, 7, 7, 9999,
9999, 7, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 8, 7, 3, 7, 3, 7, 7, 7]
missing values for this participant

Participant #33
preprocessed answers: [6, 8, 8, 5, 9999, 9999, 6, 8, 2, 9999, 9999, 1, 5, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 8, 5, 6, 8, 2, 1, 5, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53921113+0.j 0.24516908+0.j 0.07570413+0.j 0.09455926+0.j
 0.0453564 +0.j]
Consistency Ratio (0.3376569116951051+0j)
Bad consistency Ratio

Participant #34
preprocessed answers: [8, 8, 6, 6, 9999, 9999, 8, 1, 1, 9999, 9999, 8, 8, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 8, 6, 6, 8, 1, 1, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53185956-0.j 0.20713392-0.j 0.1491311 -0.j 0.05593771-0.j
 0.05593771-0.j]
Consistency Ratio (0.528401106078466+0j)
Bad consistency Ratio

Participant #35
preprocessed answers: [6, 9, 8, 1, 9999, 9999, 9, 8, 7, 9999, 9999, 9, 9, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 9, 8, 1, 9, 8, 7, 9, 9, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
```

```
[0.43680855+0.j 0.28473211+0.j 0.14871246+0.j 0.06983523+0.j
 0.05991165+0.j]
Consistency Ratio (0.8853458283645542+0j)
Bad consistency Ratio

Participant #36
preprocessed answers: [6, 6, 9, 9, 9999, 9999, 4, 5, 9, 9999, 9999, 9, 9, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 6, 9, 9, 4, 5, 9, 9, 9, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56002264-0.j 0.22140816-0.j 0.15027388-0.j 0.04610056-0.j
 0.02219476-0.j]
Consistency Ratio (0.2176825753823089+0j)
Bad consistency Ratio

Participant #37
preprocessed answers: [5, 9, 9, 8, 9999, 9999, 9, 9, 1, 9999, 9999, 9, 9, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 9, 9, 8, 9, 9, 1, 9, 9, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.47398277-0.j 0.26828439-0.j 0.14446945-0.j 0.06723449-0.j
 0.04602891-0.j]
Consistency Ratio (0.7312168597399014+0j)
Bad consistency Ratio

Participant #38
preprocessed answers: [8, 8, 8, 7, 9, 5, 8, 7, 8, 8, 7, 7, 9, 9, 9, 8, 8, 8, 7, 9,
9999]
processed answers: [8, 8, 8, 7, 9, 5, 8, 7, 8, 8, 7, 7, 9, 9, 9, 8, 8, 8, 7, 9, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.16061391-0.j 0.12768496-0.j 0.11802646-0.j 0.09237778-0.j
 0.07011184-0.j 0.42930235-0.j 0.0018827 -0.j]
Consistency Ratio (4.492917157430255+0j)
Bad consistency Ratio
```

ahpv2.py:

```
Participant #1
preprocessed answers: [6, 7, 6, 6, 1, 9999, 6, 1, 5, 5, 9999, 6, 6, 1, 9999, 5, 5,
9999, 6, 9999, 9999]
processed answers: [6, 7, 6, 6, 1, 6, 1, 5, 5, 6, 6, 1, 5, 5, 6]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.39599449 0.20358978 0.14606389 0.11498637 0.06774965 0.07161581]
Inconsistency index of the criteria:  0.5832785177758574
The pairwise comparison matrix of the criteria is inconsistent

Participant #2
preprocessed answers: [3, 4, 4, 7, 9999, 9999, 4, 4, 7, 9999, 9999, 6, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 4, 4, 7, 4, 4, 7, 6, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.43528547 0.28559087 0.16950649 0.07756211 0.03205506]
Inconsistency index of the criteria:  0.16834732948392986
The pairwise comparison matrix of the criteria is inconsistent

Participant #3
preprocessed answers: [7, 7, 7, 1, 9999, 9999, 7, 7, 7, 9999, 9999, 7, 7, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 7, 7, 1, 7, 7, 7, 7, 7, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.44772605 0.26662769 0.14258403 0.07624942 0.06681281]
Inconsistency index of the criteria:  0.8346425549920174
The pairwise comparison matrix of the criteria is inconsistent
```

```
Participant #4
preprocessed answers: [6, 8, 9, 5, 9999, 9999, 8, 8, 8, 9999, 9999, 8, 1, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 9, 5, 8, 8, 8, 8, 1, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.51467588 0.27616412 0.10421435 0.06571496 0.03923069]
Inconsistency index of the criteria:  0.5289320700268357
The pairwise comparison matrix of the criteria is inconsistent

Participant #5
preprocessed answers: [9, 8, 9, 9, 8, 8, 8, 9, 9, 1, 1, 1, 9, 1, 1, 9, 9, 9, 8, 8, 1]
processed answers: [9, 8, 9, 9, 8, 8, 8, 9, 9, 1, 1, 1, 9, 1, 1, 9, 9, 9, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.441573   0.2197384  0.07656737 0.12520703 0.06256396 0.03717512
 0.03717512]
Inconsistency index of the criteria:  0.6363520577077331
The pairwise comparison matrix of the criteria is inconsistent

Participant #6
preprocessed answers: [6, 4, 6, 6, 9999, 9999, 8, 8, 6, 9999, 9999, 1, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 4, 6, 6, 8, 8, 6, 1, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52017122 0.29223989 0.08180895 0.07484002 0.03093992]
Inconsistency index of the criteria:  0.27234760538634356
The pairwise comparison matrix of the criteria is inconsistent

Participant #7
preprocessed answers: [5, 5, 5, 5, 9999, 9999, 5, 7, 5, 9999, 9999, 7, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 5, 5, 5, 5, 7, 5, 7, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.48397433 0.27135389 0.1452787  0.06323407 0.036159  ]
Inconsistency index of the criteria:  0.2971264163344212
The pairwise comparison matrix of the criteria is inconsistent

Participant #8
preprocessed answers: [3, 3, 2, 3, 9999, 9999, 3, 3, 3, 9999, 9999, 3, 3, 9999, 9999,
3, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 3, 2, 3, 3, 3, 3, 3, 3, 3]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.3813017  0.26241388 0.16982117 0.11830867 0.06815458]
Inconsistency index of the criteria:  0.12444413134587319
The pairwise comparison matrix of the criteria is inconsistent

Participant #9
preprocessed answers: [9, 9, 5, 9, 9999, 9999, 9, 5, 5, 9999, 9999, 7, 8, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 9, 5, 9, 9, 5, 5, 7, 8, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.59010902 0.23229279 0.10510427 0.04965392 0.02284   ]
Inconsistency index of the criteria:  0.4274206770230027
The pairwise comparison matrix of the criteria is inconsistent

Participant #10
preprocessed answers: [8, 1, 3, 7, 3, 3, 5, 1, 7, 3, 3, 5, 6, 1, 5, 2, 1, 4, 4, 4, 5]
processed answers: [8, 1, 3, 7, 3, 3, 5, 1, 7, 3, 3, 5, 6, 1, 5, 2, 1, 4, 4, 4, 5]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.35026161 0.2144806  0.17436728 0.0843481  0.06908822 0.07462732
 0.03282687]
Inconsistency index of the criteria:  0.30556770922763793
The pairwise comparison matrix of the criteria is inconsistent

Participant #11
```

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preprocessed answers: [3, 5, 4, 6, 9999, 9999, 5, 4, 5, 9999, 9999, 5, 1, 9999, 9999,
4, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 5, 4, 6, 5, 4, 5, 5, 1, 4]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.44106997 0.28634988 0.12860744 0.08736341 0.0566093 ]
Inconsistency index of the criteria:  0.21605152656361198
The pairwise comparison matrix of the criteria is inconsistent

Participant #12
preprocessed answers: [7, 8, 7, 5, 9999, 9999, 7, 8, 5, 9999, 9999, 8, 8, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 8, 7, 5, 7, 8, 5, 8, 8, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53458109 0.25207946 0.12721879 0.05713941 0.02898125]
Inconsistency index of the criteria:  0.4964101575194644
The pairwise comparison matrix of the criteria is inconsistent

Participant #13
preprocessed answers: [1, 4, 5, 5, 9999, 9999, 5, 5, 5, 9999, 9999, 1, 5, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 4, 5, 5, 5, 5, 5, 1, 5, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.35846474 0.37902669 0.111213   0.1078992  0.04339637]
Inconsistency index of the criteria:  0.091223336790254


Participant #14
preprocessed answers: [5, 4, 2, 4, 9999, 9999, 5, 4, 5, 9999, 9999, 5, 5, 9999, 9999,
2, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 4, 2, 4, 5, 4, 5, 5, 5, 2]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.44813258 0.27210675 0.15382353 0.08009451 0.04584263]
Inconsistency index of the criteria:  0.2624268805489505
The pairwise comparison matrix of the criteria is inconsistent

Participant #15
preprocessed answers: [3, 9, 9, 9, 9999, 9999, 9, 9, 3, 9999, 9999, 1, 7, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [3, 9, 9, 9, 9, 9, 3, 1, 7, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.49329519 0.31369717 0.07482723 0.08511375 0.03306666]
Inconsistency index of the criteria:  0.31900067161388296
The pairwise comparison matrix of the criteria is inconsistent

Participant #16
preprocessed answers: [9, 5, 7, 5, 3, 9999, 9, 5, 7, 7, 9999, 7, 9, 5, 9999, 3, 9999,
9999, 9999, 9999, 9999]
processed answers: [9, 5, 7, 5, 3, 9, 5, 7, 7, 7, 9, 5, 3]
missing values for this participant

Participant #17
preprocessed answers: [3, 5, 7, 5, 3, 9999, 5, 5, 1, 9999, 9999, 1, 3, 9999, 9999, 3,
9999, 9999, 9999, 9999, 9999]
processed answers: [3, 5, 7, 5, 3, 5, 5, 1, 1, 3, 3]
missing values for this participant

Participant #18
preprocessed answers: [6, 6, 7, 4, 9999, 9999, 6, 8, 1, 9999, 9999, 5, 6, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 6, 7, 4, 6, 8, 1, 5, 6, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.46878193 0.24712426 0.13623409 0.08875918 0.05910054]
Inconsistency index of the criteria:  0.6107863890704648
The pairwise comparison matrix of the criteria is inconsistent
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Participant #19
preprocessed answers: [8, 1, 1, 9, 8, 9999, 1, 1, 1, 9999, 9999, 1, 1, 9999, 9999, 1,
9999, 9999, 9999, 9999, 9999]
processed answers: [8, 1, 1, 9, 8, 1, 1, 1, 1, 1, 1]
missing values for this participant

Participant #20
preprocessed answers: [3, 8, 8, 4, 3, 3, 6, 8, 2, 9999, 9999, 4, 3, 9999, 9999, 7,
9999, 9999, 9999, 9999, 9999]
processed answers: [3, 8, 8, 4, 3, 3, 6, 8, 2, 9999, 9999, 4, 3, 9999, 9999, 7, 9999,
9999, 9999, 9999, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[3.25303465e-02 2.52404294e-01 2.39866886e-01 2.39954868e-01
 2.31333487e-01 3.84579512e-03 6.43227970e-05]
Inconsistency index of the criteria:  20.717520599461853
The pairwise comparison matrix of the criteria is inconsistent

Participant #21
preprocessed answers: [7, 8, 1, 1, 9999, 9999, 1, 8, 8, 9999, 9999, 8, 8, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 8, 1, 1, 1, 8, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.43785031 0.20441756 0.20347986 0.07712613 0.07712613]
Inconsistency index of the criteria:  0.7451241808492698
The pairwise comparison matrix of the criteria is inconsistent

Participant #22
preprocessed answers: [8, 5, 7, 3, 9999, 9999, 7, 7, 4, 9999, 9999, 5, 7, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 5, 7, 3, 7, 7, 4, 5, 7, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.52348096 0.25059868 0.12298852 0.05884124 0.0440906 ]
Inconsistency index of the criteria:  0.45623876162591237
The pairwise comparison matrix of the criteria is inconsistent

Participant #23
preprocessed answers: [1, 5, 5, 8, 9999, 9999, 6, 6, 6, 9999, 9999, 6, 1, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 5, 5, 8, 6, 6, 6, 6, 1, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.36039922 0.37857937 0.13083092 0.080082   0.05010849]
Inconsistency index of the criteria:  0.24304334521545493
The pairwise comparison matrix of the criteria is inconsistent

Participant #24
preprocessed answers: [1, 1, 7, 8, 9999, 9999, 8, 7, 8, 9999, 9999, 7, 9, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [1, 1, 7, 8, 8, 7, 8, 7, 9, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.25665699 0.4887786  0.18630447 0.03584096 0.03241898]
Inconsistency index of the criteria:  0.13801572716289365
The pairwise comparison matrix of the criteria is inconsistent

Participant #25
preprocessed answers: [7, 4, 4, 5, 9999, 9999, 6, 6, 6, 9999, 9999, 6, 6, 9999, 9999,
6, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 4, 4, 5, 6, 6, 6, 6, 6, 6]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.50084123 0.26368957 0.1360345  0.06779817 0.03163652]
Inconsistency index of the criteria:  0.3636628820673734
The pairwise comparison matrix of the criteria is inconsistent

Participant #26
preprocessed answers: [1, 7, 8, 8, 9999, 9999, 7, 7, 7, 9999, 9999, 7, 7, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
```

```
processed answers: [1, 7, 8, 8, 7, 7, 7, 7, 7, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.39388123 0.37978665 0.1388227  0.06233738 0.02517204]
Inconsistency index of the criteria:  0.2698057650395027
The pairwise comparison matrix of the criteria is inconsistent

Participant #27
preprocessed answers: [1, 1, 2, 2, 3, 3, 1, 2, 1, 3, 3, 1, 2, 2, 2, 2, 1, 1, 1, 1, 1]
processed answers: [1, 1, 2, 2, 3, 3, 1, 2, 1, 3, 3, 1, 2, 2, 2, 2, 1, 1, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.21826946 0.20405068 0.17696599 0.12351914 0.10261946 0.08728764
 0.08728764]
Inconsistency index of the criteria:  0.02742122997259762


Participant #28
preprocessed answers: [7, 9, 7, 9, 9999, 9999, 9, 7, 9, 9999, 9999, 7, 1, 9999, 9999,
7, 9999, 9999, 9999, 9999, 9999]
processed answers: [7, 9, 7, 9, 9, 7, 9, 7, 1, 7]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.55768429 0.26316474 0.08904227 0.05858978 0.03151892]
Inconsistency index of the criteria:  0.44291698619223413
The pairwise comparison matrix of the criteria is inconsistent

Participant #29
preprocessed answers: [9, 9, 9, 9, 9999, 9999, 9, 9, 4, 9999, 9999, 1, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [9, 9, 9, 9, 9, 9, 4, 1, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.66299678 0.21224257 0.03982428 0.03982428 0.0451121 ]
Inconsistency index of the criteria:  0.12828719427846905
The pairwise comparison matrix of the criteria is inconsistent

Participant #30
preprocessed answers: [5, 1, 1, 3, 9999, 9999, 3, 1, 1, 9999, 9999, 7, 1, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 1, 1, 3, 3, 1, 1, 7, 1, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.31315834 0.19339117 0.24868427 0.12204299 0.12272323]
Inconsistency index of the criteria:  0.32304761593035225
The pairwise comparison matrix of the criteria is inconsistent

Participant #31
preprocessed answers: [8, 6, 9, 2, 9, 9999, 2, 8, 1, 9, 9999, 8, 4, 8, 9999, 8, 1,
9999, 9, 9999, 9999]
processed answers: [8, 6, 9, 2, 9, 2, 8, 1, 9, 8, 4, 8, 8, 1, 9]
Priority vertex (weights of criterias) from criteria 1 to 6 :
[0.44917165 0.17697187 0.1744856  0.0939812  0.08169026 0.02369942]
Inconsistency index of the criteria:  0.5168426059120123
The pairwise comparison matrix of the criteria is inconsistent

Participant #32
preprocessed answers: [5, 8, 7, 3, 9999, 9999, 9999, 7, 3, 9999, 9999, 7, 7, 9999,
9999, 7, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 8, 7, 3, 7, 3, 7, 7, 7]
missing values for this participant

Participant #33
preprocessed answers: [6, 8, 8, 5, 9999, 9999, 6, 8, 2, 9999, 9999, 1, 5, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 8, 8, 5, 6, 8, 2, 1, 5, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53921113 0.24516908 0.07570413 0.09455926 0.0453564 ]
Inconsistency index of the criteria:  0.37383443794815197
The pairwise comparison matrix of the criteria is inconsistent
```

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Participant #34
preprocessed answers: [8, 8, 6, 6, 9999, 9999, 8, 1, 1, 9999, 9999, 8, 8, 9999, 9999,
1, 9999, 9999, 9999, 9999, 9999]
processed answers: [8, 8, 6, 6, 8, 1, 1, 8, 8, 1]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.53185956 0.20713392 0.1491311  0.05593771 0.05593771]
Inconsistency index of the criteria:  0.5850155103011586
The pairwise comparison matrix of the criteria is inconsistent

Participant #35
preprocessed answers: [6, 9, 8, 1, 9999, 9999, 9, 8, 7, 9999, 9999, 9, 9, 9999, 9999,
8, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 9, 8, 1, 9, 8, 7, 9, 9, 8]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.43680855 0.28473211 0.14871246 0.06983523 0.05991165]
Inconsistency index of the criteria:  0.9802043099750419
The pairwise comparison matrix of the criteria is inconsistent

Participant #36
preprocessed answers: [6, 6, 9, 9, 9999, 9999, 4, 5, 9, 9999, 9999, 9, 9, 9999, 9999,
5, 9999, 9999, 9999, 9999, 9999]
processed answers: [6, 6, 9, 9, 4, 5, 9, 9, 9, 5]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.56002264 0.22140816 0.15027388 0.04610056 0.02219476]
Inconsistency index of the criteria:  0.2410057084589848
The pairwise comparison matrix of the criteria is inconsistent

Participant #37
preprocessed answers: [5, 9, 9, 8, 9999, 9999, 9, 9, 1, 9999, 9999, 9, 9, 9999, 9999,
9, 9999, 9999, 9999, 9999, 9999]
processed answers: [5, 9, 9, 8, 9, 9, 1, 9, 9, 9]
Priority vertex (weights of criterias) from criteria 1 to 5 :
[0.47398277 0.26828439 0.14446945 0.06723449 0.04602891]
Inconsistency index of the criteria:  0.809561523283462
The pairwise comparison matrix of the criteria is inconsistent

Participant #38
preprocessed answers: [8, 8, 8, 7, 9, 5, 8, 7, 8, 8, 7, 7, 9, 9, 9, 8, 8, 8, 7, 9,
9999]
processed answers: [8, 8, 8, 7, 9, 5, 8, 7, 8, 8, 7, 7, 9, 9, 9, 8, 8, 8, 7, 9, 9999]
Priority vertex (weights of criterias) from criteria 1 to 7 :
[0.16061391 0.12768496 0.11802646 0.09237778 0.07011184 0.42930235
 0.0018827 ]
Inconsistency index of the criteria:  4.799252418164135
The pairwise comparison matrix of the criteria is inconsistent
```

Discussion: Overall, same as before, the consistency index found using the manual's method (ahpv2.py) is not much different from mine (ahp.py). They have minimal differences at the third decimal number. Sometimes one will be higher than the other, but not by an alarming amount.

Conclusion

Both employ a similar method of calculating the consistency ratio, such that they output similar numbers. Also, both output the same priority vector for the criterias. Based on other sources, the more popular method of calculating the consistency

ratio is the one used in ahpv2.py, or otherwise known as the one the manual presents.

Disclaimer: For some participants, I was unable to calculate their consistency ratios due to an irregular amount of 9999 values. As well, for some abnormally high consistency ratios, it is also most likely due to an irregular amount of 9999 values.