1. This simply means do not just include a table. Instead, include a written analysis of how the Student performed using each of your 3 original heuristics and how well ID\_Improved did, as well. In that analysis you will naturally mention how the other agents performed, too, since they were the opponents.

It's pretty typical for ID\_Improved to be in the 60-70% range. Getting all the way to 80% is suspiciously high, and being consistently below 60% would be suspiciously low.

Heuristic 1:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 Evaluating: ID\_Improved

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1: ID\_Improved vs   Random    Result: 68 to 32

  Match 2: ID\_Improved vs   MM\_Null   Result: 60 to 40

  Match 3: ID\_Improved vs   MM\_Open   Result: 51 to 49

  Match 4: ID\_Improved vs MM\_Improved Result: 56 to 44

  Match 5: ID\_Improved vs   AB\_Null   Result: 65 to 35

  Match 6: ID\_Improved vs   AB\_Open   Result: 48 to 52

  Match 7: ID\_Improved vs AB\_Improved Result: 47 to 53

Results:

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ID\_Improved         56.43%

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

   Evaluating: Student

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1:   Student   vs   Random    Result: 70 to 30

  Match 2:   Student   vs   MM\_Null   Result: 67 to 33

  Match 3:   Student   vs   MM\_Open   Result: 58 to 42

  Match 4:   Student   vs MM\_Improved Result: 52 to 48

  Match 5:   Student   vs   AB\_Null   Result: 69 to 31

  Match 6:   Student   vs   AB\_Open   Result: 60 to 40

  Match 7:   Student   vs AB\_Improved Result: 49 to 51

Results:

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Student             60.71%

Heuristic 2:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 Evaluating: ID\_Improved

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1: ID\_Improved vs   Random    Result: 74 to 26

  Match 2: ID\_Improved vs   MM\_Null   Result: 60 to 40

  Match 3: ID\_Improved vs   MM\_Open   Result: 50 to 50

  Match 4: ID\_Improved vs MM\_Improved Result: 48 to 52

tournament.py:100: UserWarning: One or more agents lost a match this round due to timeout. The get\_move() function must return before time\_left() reaches 0 ms. You will need to leave some time for the function to return, and may need to increase this margin to avoid timeouts during  tournament play.

  warnings.warn(TIMEOUT\_WARNING)

  Match 5: ID\_Improved vs   AB\_Null   Result: 63 to 37

  Match 6: ID\_Improved vs   AB\_Open   Result: 52 to 48

  Match 7: ID\_Improved vs AB\_Improved Result: 53 to 47

Results:

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ID\_Improved         57.14%

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

   Evaluating: Student

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1:   Student   vs   Random    Result: 79 to 21

  Match 2:   Student   vs   MM\_Null   Result: 55 to 45

  Match 3:   Student   vs   MM\_Open   Result: 49 to 51

  Match 4:   Student   vs MM\_Improved Result: 50 to 50

  Match 5:   Student   vs   AB\_Null   Result: 61 to 39

  Match 6:   Student   vs   AB\_Open   Result: 59 to 41

  Match 7:   Student   vs AB\_Improved Result: 54 to 46

Results:

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Student             58.14%

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 Evaluating: ID\_Improved

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1: ID\_Improved vs   Random    Result: 74 to 26

  Match 2: ID\_Improved vs   MM\_Null   Result: 63 to 37

  Match 3: ID\_Improved vs   MM\_Open   Result: 51 to 49

  Match 4: ID\_Improved vs MM\_Improved Result: 43 to 57

  Match 5: ID\_Improved vs   AB\_Null   Result: 56 to 44

  Match 6: ID\_Improved vs   AB\_Open   Result: 51 to 49

  Match 7: ID\_Improved vs AB\_Improved Result: 49 to 51

Results:

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ID\_Improved         55.29%

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

   Evaluating: Student

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Playing Matches:

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  Match 1:   Student   vs   Random    Result: 77 to 23

  Match 2:   Student   vs   MM\_Null   Result: 64 to 36

  Match 3:   Student   vs   MM\_Open   Result: 55 to 45

  Match 4:   Student   vs MM\_Improved Result: 52 to 48

  Match 5:   Student   vs   AB\_Null   Result: 70 to 30

  Match 6:   Student   vs   AB\_Open   Result: 55 to 45

  Match 7:   Student   vs AB\_Improved Result: 55 to 45

Results:

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Student             61.14%