Grammar for Language Describing Game Structures

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Pretty-printed EBNF grammar:

⟨*game*⟩ ::= '`Players:`' ⟨*teamList*⟩ '`Rounds:`' ⟨*roundList*⟩ '`Win:`' ⟨*winCondition*⟩ {⟨*tiebreaker*⟩}

⟨*teamList*⟩ ::= (⟨*team*⟩ {'`;`' ⟨*team*⟩} | ⟨*playerList*⟩ | '`randomly divide`' ⟨*playerList*⟩ '`into`' ⟨*nameList*⟩) ['`all with`' ⟨*attributeList*⟩]

⟨*team*⟩ ::= '`team`' ⟨*name*⟩ '`:`' ⟨*playerList*⟩

⟨*playerList*⟩ ::= ⟨*player*⟩ {'`,`' ⟨*player*⟩}

⟨*player*⟩ ::= ⟨*name*⟩ ['`with`' ⟨*attributeList*⟩]

⟨*attributeList*⟩ ::= ⟨*attribute*⟩ {'`,`' ⟨*attribute*⟩}

⟨*attribute*⟩ ::= '`affiliation called`' ⟨*name*⟩ | ('`score`' | '`resource`' | '`counter`') '`called`' ⟨*name*⟩ ['`starting at`' ⟨*number*⟩] ['`with minimum of`' ⟨*number*⟩] ['`with maximum of`' ⟨*number*⟩]

⟨*roundList*⟩ ::= ⟨*round*⟩ {⟨*round*⟩}

⟨*round*⟩ ::= ⟨*phaseList*⟩ ['`repeated`' ⟨*number*⟩ '`times`' ['`with modifications`' '`:`' ⟨*modifierList*⟩]] '`;`'

⟨*modifierList*⟩ ::= ⟨*modifier*⟩ '`.`' {⟨*modifier*⟩}

⟨*modifier*⟩ ::= ['`just`' | '`from`'] (⟨*roundReference*⟩ ('`before`' | '`after`' | '`instead of`') ⟨*phaseReference*⟩ '`insert`' ⟨*phase*⟩)

⟨*roundReference*⟩ ::= '`round`' ⟨*number*⟩

⟨*phaseReference*⟩ ::= '`phase`' ⟨*number*⟩

⟨*phase*⟩ ::= ⟨*action*⟩ | ⟨*progression*⟩

⟨*phaseList*⟩ ::= ⟨*phase*⟩ '`.`' {⟨*phase*⟩}

⟨*action*⟩ ::= ⟨*competition*⟩ | ⟨*decision*⟩

⟨*competition*⟩ ::= ['`scored`'] ['`team`'] '`competition between`' ⟨*identifierList*⟩

⟨*decision*⟩ ::= '`vote by`' ⟨*identifierList*⟩ '`between`' ⟨*identifierList*⟩ ['`including self`']
| '`nomination of`' ⟨*number*⟩ '`by`' ⟨*identifierList*⟩ '`between`' ⟨*identifierList*⟩
['`including self`'] | '`allocation of`' ⟨*name*⟩ '`by`' ⟨*identifierList*⟩ | '`directed vote by`'
⟨*identifierList*⟩ '`between`' ⟨*identifierList*⟩ ['`including self`'] | '`uses?`' ⟨*identifier*⟩
'`then`' '`(`' ⟨*phaseList*⟩ '`)`' ['`otherwise`' '`(`' ⟨*phaseList*⟩ '`)`']

⟨*progression*⟩ ::= (⟨*affiliationUpdate*⟩ | ⟨*counterUpdate*⟩) ('`for`' | '`of`') ⟨*identifierList*⟩

⟨*affiliationUpdate*⟩ ::= '`elimination`' | ('`add`' | '`remove`') ⟨*name*⟩ | ['`number preserving`']
'`swap`' ⟨*nameList*⟩ ['`adding`' ⟨*nameList*⟩] | '`change`' ⟨*name*⟩ '`to`' ⟨*name*⟩ |
'`merge`' ⟨*nameList*⟩ ['`to`' ⟨*name*⟩]

⟨*counterUpdate*⟩ ::= ('`increase`' | '`decrease`') ⟨*name*⟩ '`by`' ⟨*value*⟩ | '`set`' ⟨*name*⟩
'`to`' ⟨*value*⟩

⟨*value*⟩ ::= ⟨*number*⟩ | ⟨*name*⟩ | '`results`' '`of`' (⟨*compReference*⟩ | ⟨*allocateReference*⟩
| ⟨*voteReference*⟩)

⟨*identifierList*⟩ ::= ⟨*idValList*⟩ ['`except`' ⟨*idList*⟩]

⟨*idList*⟩ ::= ⟨*identifier*⟩ {'`,`' ⟨*identifier*⟩}

⟨*idValList*⟩ ::= ⟨*identifierVal*⟩ {'`,`' ⟨*identifierVal*⟩}

⟨*identifierVal*⟩ ::= ⟨*identifier*⟩ ['`*`' ⟨*value*⟩]

⟨*identifier*⟩ ::= '`everyone`' | ⟨*name*⟩ | '`chance`' ⟨*number*⟩ '`(`' ⟨*identifierList*⟩ '`)`' |
'`nominated`' | '`tied`' | '`eliminated`' | ('`winner`' | '`loser`') '`of`' ⟨*compReference*⟩
| ('`majority`' | '`minority`') '`of`' ⟨*voteReference*⟩ [⟨*tiebreakerReference*⟩] |
('`highest`' | '`lowest`' | '`most`' | '`least`') ⟨*name*⟩ '`(`' ⟨*identifierList*⟩ '`)`'
[⟨*tiebreakerReference*⟩]

⟨*compReference*⟩ ::= '`competition`' [⟨*number*⟩]

⟨*allocateReference*⟩ ::= '`allocation`' [⟨*number*⟩]

⟨*voteReference*⟩ ::= '`vote`' [⟨*number*⟩]

⟨*tiebreaker*⟩ ::= '`Tiebreaker:`' ⟨*name*⟩ [⟨*action*⟩] ⟨*identifier*⟩

⟨*tiebreakerReference*⟩ ::= '`tiebroken by`' ⟨*name*⟩

⟨*name*⟩ ::= (‘`a`’ | ... | ‘`z`’ | ‘`A`’ | ... | ‘`Z`’) {‘`a`’ | ... | ‘`z`’ | ‘`A`’ | ... | ‘`Z`’ | ‘`0`’ | ... | ‘`9`’}

⟨*nameList*⟩ ::= ⟨*name*⟩ {‘`,`’ ⟨*name*⟩}

⟨*number*⟩ ::= [‘`-`’] (‘`0`’ | ... | ‘`9`’)+

⟨*winCondition*⟩ ::= ‘`reach`’ ⟨*goalList*⟩ [‘`for team`’] | [‘`team`’] ‘`competition`’ | ⟨*identifierList*⟩ [‘`for team`’] | ⟨*number*⟩ ‘`member jury vote`’ | ‘`survive`’

⟨*goal*⟩ ::= ⟨*number*⟩ ⟨*name*⟩

⟨*goalList*⟩ ::= ⟨*goal*⟩ {‘`,`’ ⟨*goal*⟩}

TODO:

- Either add a tiebreaker reference to the ”winner/loser of competition” identifier, specifically for scored competitions (since they could tie), or add the possibility of multiple actions in a tiebreaker, so that the results of a scored competition could increment a counter, which can then be used in an identifier with a tiebreaker. Probably both of these should be done.
- comments