Breakthrough

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1 *Attachment* (9.1 KB)

Aaron –

I've spent a happy day coding, and have come up with a way to generate all the English words of five letters or more that can be created from seven letters (which I call the hive) and must include any particular one of them (the queen). It also assigns the 1- and 3- point values of the Times puzzle.

The seven-letter hives are all derived from words of seven or more letters, so there is always at least one 3-point word for every combination of hive and queen.

So... one merely needs to run the code and find those combinations of hive and queen that yield between, say, 12 and 25 points (or whatever we decide is the playable range).

I attach the initial couple of hundred lines from a recent run. At the top of each group of words is the seven-letter hive and, in parentheses, the queen for that group, in this case A. The three-point words are indicated, and the point total for each group is after the last word.

```
ABCDEFK   (A)
-----------
ABACA
ABACK
ABAKA
ACCEDE
ACCEDED
. . .
```

```
FADED

FAKED

FEEDBACK                    3

KABAB

KABAKA

KEBAB

  Points: 40
```

With 38 words for 40 points, this one is probably not a good group to use, and in fact I've since added code to ignore groups with over 25 points.

But... the same hive with a less frequent queen, F, looks very playable:

```
ABCDEFK   (F)
-----------
BAFFED

BEEFCAKE

BEEFED

DAFFED

DECAF

DEFACE

DEFACED

EFFACE

EFFACED

FACADE

FACED

FADED

FAKED

FEEDBACK                    3

  Points: 16
```

We could say 8=Good, 12=Excellent, 16=Genius
for that group, using an arbitrary 50%, 75%, and 100% scoring.

The words that use just seven different letters are not limited to such short ones. The following are all in the game, since they have 7 or fewer unique letters:

ANTINATIONALISTS

ANTITOTALITARIAN

ASSOCIATIONISTIC

COCCIDIOIDOMYCOSIS

DISINTERESTEDNESS

DISINTERESTEDNESSES (the longest at 19 letters)

EVENHANDEDNESSES

HARDHANDEDNESSES

HARDHEADEDNESSES

IRRESISTIBILITIES

UNCONSCIOUSNESSES

My code is massively recursive: each of the 70,000 words words that can be written with seven or fewer unique letters is checked against 16,000 hives, each of which has 7 different possibilities for the queen, and I haven't yet done a full run. I'm doing partial ones to see how best to ignore too-productive loops as soon as possible so we don't have to review a 120 MB text file to find usable puzzles. (Also running the data files off a RAM disk to save my hard drive.)

So... however Frank Longo creates his puzzles, I've come up with a brute-force method. It will still require some picking and choosing, as in which queen would make a given hive the most interesting, but the work load is hugely reduced.

At some point, this kind of starts poaching on Frank Longo's territory. Is this a concern for you? How close is too close?

–Bill