インターネットの遊び方(13)

武藤佳恭

はじめに

最終の2回にわたって，楽しいデータベースをできるだけたくさん紹介する．ここで紹介するデータベースは米国の哲学学会，ビルボードチャート Top 10，米国数学学会，医学技術/教育ネット，FDA の BBS システム，無料の Unix アカウント in US，NBA/NHL/MLB/NFL などのスポーツ情報データベースである．

米国の哲学学会

米国の哲学学会にアクセスするには，IP アドレスが atl.calstate.edu，ログイン名は apa と入力する．

```
telnet atl.calstate.edu
SunOS UNIX (eis.calstate.edu)
Login : apa
Last login : Thu Jul 15 23:21:07 from scilibx.UCSC.EDU
SunOS Release 4.1.3 (FAST_P) #15 : Tue Jul 6 12:13:16 PDT 1993

Press <RETURN> to continue :

-------------------------------------------------------------------------------

        Bulletin Board of the American Philosophical Association
-------------------------------------------------------------------------------

        [1]    Introduction to this Bulletin Board (update: 7/7)
        [2]    From the National Office (3/11)
        [3]    Philosophical Societies (5/28)
        [4]    Grants, Fellowships, NEH Seminars and Institutes (6/4)
        [5]    Philosophical Calendar (7/6)
        [6]    E-mail Addresses of the Membership (5/11)
        [7]    Directories and Computer Resources (7/12)
        [8]    Bibliographies and Journal Information (2/23)
        [9]    News from the Divisions - (3/11)
```

ビルボードチャート Top 10

ビルボードチャート Top 10 を見るには，finger buckmr@rpi.edu を入力する．7月16日の実行結果を見て
みよう．

U.S. Top Pop Singles：
1. (01) SWV -- Weak [SECOND week at #1]
2. (04) UB 40 -- Can't Help Falling in Love
3. (03) TAG TEAM -- Whoomp ! (There it is)
4. (02) JANET JACKSON -- That's The Way Love Goes
5. (05) H-TOWN -- Knockin' Da Boots
6. (07) ROD STEWART -- Have I Told You Lately (from Unplugged)
7. (06) ROBIN S. -- Show Me Love
8. (09) EXPOSE -- I'll Never Get Over You (Getting Over Me)
9. (1 ?) THE PROCLAIMERS -- I'm Gonna Be (500 Miles)
10. (08) DR. DRE -- Dre Day

U.S. Top Pop Albums：
1. (--) BARBRA STREISAND -- Back To Broadway [FIRST week at #1]
2. (01) JANET JACKSON -- janet.
3. (06) BILLY RAY CYRUS -- It Won't Be The Last
4. (03) STONE TEMPLE PILOTS -- Core
5. (02) ROD STEWART -- Unplugged. . .And Seated
6. (05) DR. DRE -- The Chronic
7. (04) KENNY G -- Breathless
8. (07) VARIOUS ARTISTS -- Soundtrack to Last Action Hero'
9. (? ?) VARIOUS ARTISTS -- Soundtrack to Sleepless in Seattle'
10. (10) SWV -- It's About Time

Top Adult Contemporary Singles in the USA
1. (06) EXPOSE -- I'll Never Get Over You (Getting Over Me) [FIRST week]
2. (07) TINA TURNER -- I Don't Wanna Fight
3. (01) KENNY G & PEABO BRYSON -- By The Time This Night Is Over
4. (03) ROD STEWART -- Have I Told You Lately
5. (05) DAVE CROSBY & PHIL COLLINS -- Hero
6. (? ?) VANESSA WILLIAMS -- Love Is
7. (04) AARON NEVILLE -- Don't Take Away My Heaven
8. (08) STING -- Fields Of Gold
9. (02) PETER CETERA -- Even A Fool Can See
10. (? ?) GLORIA ESTEFAN -- I See Your Smile

Top Rhythm and Blues Singles in the USA
 1. (03) TAG TEAM --   Whoomp！There It Is！ [FIRST week at #1]
 2. (02) JODECI -- Lately
 3. (01) SWV -- Weak
 4. (04) JANET JACKSON -- That's The Way Love Goes
 5. (06) U.N.V. -- Something's Goin' on
 6. (05) H-TOWN -- Knockin' Da·Boots
 7. (?9) SILK -- Lose Control/Girl U For Me
 8. (08) LEVERT -- ABC-123
 9. (? ?) 95 SOUTH -- Whoot, There It Is
10. (07) ROBIN S. -- Show Me Love

米国数学学会

米国数学学会をのぞいてみよう．IP アドレスは e-math.ams.com，ログイン名/パスワード名とも e-math である．ここでは，Andrew Wiles 教授のフェルマーの最終定理の証明についてのエキサイティングな情報を見ることができる．

```
telnet e-math.ams.com
login: e-math
password: e-math

        Unauthorized access to this node is strictly prohibited.

MMM                MMM   AAAAAA    TTTTTTTTTTTT  HH        HH
MMMM              MMMM   AAAAAAAA  TTTTTTTTTTTT  HH        HH
MM  MM          MM  MM  AA    AA       TTT       HH        HH
MM    MM      MM  MM  AA    AA       TTT       HH        HH eeeeee
MM      MM  MM    MM AAAAAAAAAA      TTT     HHHHHHHHHHH e    e
MM        MMM     MM AAAAAAAAAA      TTT     HHHHHHHHHHH e    e
MM         M      MM AA    AA       TTT       HH        HH eeeeeee
MM                MM AA    AA       TTT       HH        HH e
MM                MM AA    AA       TTT       HH        HH e    e
MM                MM AA    AA       TTT       HH        HH eeeeee
                    PRESS q for MAIN MENU
            PRESS RETURN for Release Notes and Hints
* * * * * * * * * * * * * *＼* * * * * * * * * * * * * * * * * * * * * *
        CONCERNS OF YOUNG MATHEMATICIANS NEWSLETTER

    Volume 1, Issue 1 is posted under the selection
    General Information of Interest to Mathematicians
    on the e-MATH GOPHER.

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                    FERMAT'S LAST THEOREM

    Ken Ribet is moderating a discussion of the
    Andrew Wiles announcement of a proof for Fermat's
```

Last Theorem. For details, see the e-MATH GOPHER
under lists and bulletin boards.

q を入力し，メインメニューに行く．Wiles 教授のフェルマーの最終定理の証明情報を見るために [12] E-MATH GOPHER を選択する．

`q`

```
                          e-MATH SERVICES

   [0]  EXIT                                  [8]   SUGGESTION BOX

   [1]  DIRECTORY INFORMATION (CML)           [9]   MATH REVIEWS AUTHOR LOOKUP

   [2]  PROFESSIONAL OPPORTUNITIES            [10]  BULLETIN OF THE AMS

   [3]  SOFTWARE                              [11]  DIRECTORY OF LISTS

   [4]  MATHDOC DOCUMENT DELIVERY             [12]  E-MATH GOPHER

   [5]  MATH REVIEWS CLASSIFICATION SCHEME    [13]  E-MATH WAIS

   [6]  MATH REVIEWS SUBMISSION               [14]  HELP

   [7]  WELCOME MESSAGE
```

Selection : `12`   を入力する

```
                    Root gopher server: e-math

   -->    1.   About this Node.
          2.   e-MATH Login Facility/
          3.   Welcome Information from the e-MATH Login Facility.
          4.   Mathematical Publications/
          5.   Mathematical Preprints/
          6.   FERMAT'S LAST THEOREM.
          7.   Mathematical Discussion Lists and Bulletin Boards/
          8.   General Information of Interest to Mathematicians /
          9.   Professional Information for Mathematicians/
         10.   Mathematical Sciences Meetings and Conferences/
         11.   Notes from MathSci/
         12.   National Science Foundation Gopher (STIS)/
         13.   Other Gopher Services/

   Press ? for Help, q to Quit, u to go up a menu
```

`6` と入力する

```
                  Fermat's Last Theorem

   Items related to Andrew Wiles announced proof of Fermat's
   Last Theorem are being posted on the e-MATH system.

   A LISTSERV discussion is also being conducted. The moderator
   is Ken Ribet.
```

Dr. Ken Ribet が Wiles 教授の証明の議論を編集していることがわかる．

For details, select Lists and Bulletin Boards.

              Mathematical Discussion Lists and Bulletin Boards

     1.   About this node.
     2.   Calculus Reform.
     3.   Differential Geometry (Connexion).
     4.   SGML-MATH and SGML-TABLES.
--> 5.   Fermat's Last Theorem/

     1.   About this Node.
     2.   LISTSERV Discussion moderated by Ken Ribet.
--> 3.   Ken Ribet's Network Announcement of the Andrew Wiles Proof.
     4.   Ken Ribet's News Item for Notices of the AMS.
     5.   A History of Fermat's Last Theorem.
     6.   A Parody on the Andrew Wiles Announcement.

ここで，5と3を入力し，ネットワーク上のアナウンスを見てみる．

⑤，③

中身は次のようである．

Proof for Fermat's Last Theorem

I imagine that many of you have heard rumours about Wiles's announcement a few hours ago that he can prove Taniyama's conjecture for semistable elliptic curves over Q. This case of the Taniyama conjecture implies Fermat's Last Theorem, in view of the result that I proved a few years ago. (I proved that the "Frey elliptic curve" constructed from a possible solution to Fermat's equation cannot be modular, i.e., satisfy Taniyama's Conjecture. On the other hand, it is easy to see that it is semistable.)

Here is a brief summary of what Wiles said in his three lectures.

The method of Wiles borrows results and techniques from lots and lots of people. To mention a few: Mazur, Hida, Flach, Kolyvagin, yours truly, Wiles himself (older papers by Wiles), Rubin... The way he does it is roughly as follows. Start with a mod p representation of the Galois group of Q which is known to be modular. You want to prove that all its lifts with a certain property are modular. This means that the canonical map from Mazur's universal deformation ring to its "maximal Hecke algebra" quotient is an isomorphism. To prove a map like this is an isomorphism, you can give some sufficient conditions based on commutative algebra. Most notably, you have to bound the order of a cohomology group which looks like a Selmer group for Sym^2 of the representation attached to a modular form. The techniques for doing this come from Flach; you also have to use Euler systems a la Kolyvagin, except in some new geometric guise.

If you take an elliptic curve over Q, you can look at the representation of Gal on the 3-division points of the curve. If you're lucky, this will be known to be modular, because of results of Jerry Tunnell (on base change). Thus, if you're lucky, the problem I described above can be solved (there are most definitely some hypotheses to check), and then the curve is modular. Basically, being lucky means that the image of the representation of Galois on 3-division points is $GL(2, Z/3 Z)$.

Suppose that you are unlucky, i.e., that your curve E has a rational subgroup of order 3. Basically by inspection, you can prove that if it has a rational subgroup of order 5 as well, then it can't be semistable. (You look at the four non-cuspidal rational points of $X 0(15)$.) So you can assume that E [5] is "nice." Then the idea is to find an E' with the same 5-division structure, for which E' [3] is modular. (Then E' is modular, so E' [5] = E [5] is modular.) You consider the modular curve X which parametrizes elliptic curves whose 5-division points look

like E [5]. This is a "twist" of X(5). it's therefore of genus 0, and it has a rational point (namely, E), so it's a projective line. Over that you look at the irreducible covering which corresponds to some desired 3-division structure. You use Hilbert irreducibility and the Cebotarev density theorem (in some way that hasn't yet sunk in) to produce a non-cuspidal rational point of X over which the covering remains irreducible. You take E' to be the curve corresponding to this chosen rational point of X.

-ken ribet

...

詳しい説明はさらに次回に続く．

（たけふじ　よしやす　慶應義塾大学　環境情報学部）

bit 悪魔の辞典

コンピュータ・リテラシ（computer literacy）

　コンピュータの読み書き能力のこと．コンピュータが誕生した当時は，読み書きソロバンのうち，ソロバン能力が重視されたため，コンピュータの読み書き能力は非常に貧弱であった．実際，日本語の文字は入力できても，日本語が読めるコンピュータはほとんどなかった．

　日本語を書く能力も当初は恐ろしく貧弱であった．漢字が書けないことはもちろん，カタカナも満足に書けない国産コンピュータがたくさんあった．事実，小さいカタカナが打てないばかりに，いつも「ジブハイジウシウリウシマシタ」としかプリントしないコンピュータもあったのである（「ジョブは異常終了しました」と言いたかったらしい）．

　コンピュータの読み書き能力を増強するために，コンピュータを教育することの重要性はすでに多くの識者の指摘するところである．しかし，ROM とか CD-ROM のように，読むことしかできないデバイスを作って儲ける悪徳商人があとを断たない．WOM（Write Once Memory）のように，1回だけ書けるディスクを売り出した商人はそれに比べると教育的といえよう．

　このような状況にあって，ユーザの無理解も糾弾されなければなるまい．バックアップと称して，書くだけで絶対に読み返さないテープやディスクを大量に消費するのは，コンピュータの読み書き能力の健全な成長を阻害する非教育的行為である．

　コンピュータが大量に出回るにつれ，言葉の読み書きをしない，いわば文盲のコンピュータが増えてきた．実際，最近は，絵（アイコン）やグラフィクスしかわからないコンピュータが蔓延している．このため，コンピュータ教育に理想をもつ教員のいる，いくつかの大学（たとえば，慶應義塾）で本格的にコンピュータ・リテラシの教育が始まった．学生を動員して，とにかく文章やコマンドを入力し，コンピュータ同士で言葉を通信させたり，紙にきれいな文書印刷をさせる訓練を行ない始めたのである．幸い，ほとんどの学生は，これがコンピュータの教育であって，学生の教育でないことにまだ気がついていない．