REXX Bits

Linda Green
IBM

REXXbits

Linda Suskind Green
REXX Interface Owner

IBM
Endicott Programming Lab
G98/6C12
PO Box 6
Endicott, NY 13760

INTERNET: greenls@gdlvm7.vnet.ibm.com
Phone: 607-752-1172

May, 1993

Contents

● REXX History

● REXX Excitements

● REXX Curiosities

REXX-LSG

Contents

- ## REXXbits Summary

REXX History

REX becomes REXX

In the beginning, there was

       REX   (REformed eXecutor)

which eventually became

       REXX   (REstructured eXtended eXecutor)

        2   REXX-LS(

REXX Firsts

◆ 1979 - Mike Cowlishaw (MFC) starts work on REX

◆ 1981 - First SHARE presentation on REX by Mike

◆ 1982 - First non-IBM location to get REX is SLAC

◆ 1983 - First REXX interpreter shipped by IBM for VM

◆ 1985 - First non-IBM implementation of REXX shipped

◆ 1985 - First REXX trade press book published

◆ 1987 - IBM Selects REXX as the SAA Procedures Language

◆ 1989 - First REXX compiler shipped by IBM for VM

◆ 1990 - SHARE REXX committee becomes a project

◆ 1990 - First SHARE presentation on Object Oriented REXX

◆ 1990 - First Annual REXX symposium held (organized by SLACs Cathie Dager)

◆ 1991 - First REXX ANSI committee meeting held

Answer is:

19

Question is:

What are the number of official members of X3J18 (ANSI REXX committee)?

51

Jeopardy: REXX for $800

Answer is:

118

Question is:

How many people attended the first annual REXX symposium in 1990 (as listed in the proceedings)?

     5   **REXX-LSG**

Jeopardy: REXX for $600

Answer is:

203

Question is:

What is the number of pages in the second
edition of TRL (The REXX Language) book by
Mike Cowlishaw?

53

Answer is:

646

Question is:

What are the number of pages in TRH (The REXX Handbook) written by many people in this room?

Answer is:

      4794

Question is:

How many days has it been since REXX was
started on March 20, 1979? (13 years, 45 days)

Jeopardy: REXX for $500

Answer is:

5

Question is:

How many programming languages has MFC
designed?
Note that REXX is his latest!!!!

56

9

Jeopardy: REXX for $400

Answer is:

   350

Question is:

   What is the peak amount of REXX electronic mail
   MFC received per working day?

57 10

Jeopardy: REXX for $300

Answer is:

     4000

Question is:

     What is the approximate number of hours MFC spent on REXX before the first product shipped?

Answer is:

500,000

Question is:

What are the approximate number of REXX related electronic mail MFC has read since REXX started?

         REXX-LSG

Jeopardy: REXX for $100
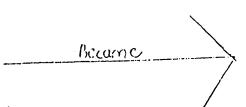
Answer is:

> over 6,000,000

Question is:

> What is the largest known total number of lines
> of REXX code used in any one company?

 REXX-LS(

REXX Buttons
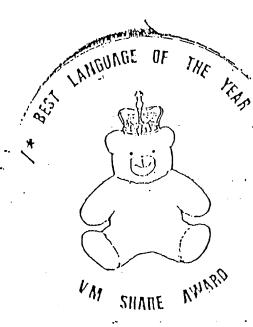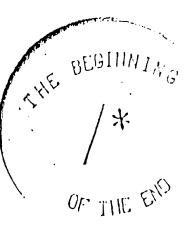
Customer Created:

REX is not BASIC → Became → REXX is not BASIC

REXX, LIBS AND VIDEO DISPLAYS

/* BEST LANGUAGE OF THE YEAR */
VM SHARE AWARD

REXX HAVOC

VMISP has Rexx APPEAL

REXX
R_X
FOR THE FUTURE

THE BEGINNING /* OF THE END

61

REXX Buttons

Customer Created:

TSO/E
IS
REXX
RATED

TYRANNOSAURUS
REXX
TSO/EV2

TSO/E
PUTTIN' ON THE REXX

REXX
THERAPIS

I
PRACTICE
SAFE
REXX
TSO/E™ V2

I've been
REXX'd
and I
like it!!

REXX
is
not
a

IBM Created:

PROGRAMMING POWER
CUA
2001
REXX

SAA Procedures
Language/REXX

Text of the REXX Buttons

◆ **General**
- **REX is not BASIC**
- **REXX is not BASIC**
- **The beginning /* of the end**
- **REXX RX for the future**
- **I've been REXX'd and I like it**
- **REXX is not a ...**
- **REXX Havoc**
- **REXX, Libs and Video Displays**
- **REXX Therapist**

◆ **VM**
- **/* Best Language of the Year */ VM SHARE AWARD**
- **VM/SP has REXX Appeal**
- **RXSQL good medicine!**
- **Programming Power-CUA 2001-REXX**

◆ **SAA**
- **SAA Procedures Language/REXX**

◆ **TSO/E**
- **I practice safe REXX (TSO/E v2)**
- **TSO/E is REXX rated!**
- **Tyrannosaurus REXX TSO/E v2**
- **TSO/E Puttin' on the REXX**

64

REXX Excitements

65 18

REXX Excitement!

◆ **ANSI committee started**

◆ **REXX Users start a yearly REXX Symposium in 1990**

◆ **SHARE elevated REXX to a Project**

◆ **Increasing number of books and articles on REXX**

◆ **Increasing number of REXX Implementations on different platforms by increasing number of companies**

66

19   REXX-LSG

REXX is one of 15 languages to be worked on as an ANSI standardized language. Others are:

- ◆ **APL**
- ◆ **APT**
- ◆ **BASIC**
- ◆ **C**
- ◆ **C++**
- ◆ **COBOL**
- ◆ **DATABUS**
- ◆ **DIBOL**
- ◆ **FORTH**
- ◆ **FORTRAN**
- ◆ **LISP**
- ◆ **PASCAL**
- ◆ **PL/I**
- ◆ **PROLOG**

Note that the languages listed are at different levels of standardization.

REXX Symposium

- ◆ Annual event started in 1990

- ◆ Run by Users of REXX

- ◆ Attended by all vendors of REXX implementations and their users

- ◆ includes presentations, demos, panel discussions, etc

- ◆ Initiated by Cathie Dager of SLAC in 1990

- ◆ 1990: 118 attendees for a single day
  1991: expanded to 2 days
  1993: planned for May 18-20, 1992 in San Diego, CA

- ◆ Purpose: "a gathering where REXX users and developers could meet each other, exchange ideas, and information about the language and discuss future plans."

68

SHARE Interest in REXX

SHARE Meeting	Number of REXX Sessions
72 (3/89)	9
73 (8/89)	13
74 (3/90)	23
74.5 (5/90)	REXX Project approved
75 (8/90)	25
76 (3/91)	20
77 (8/91)	28
78 (3/92)	41

Note that the sessions are in the REXX Project, MVS Project, anc CMS Project.

69

Publications

As of 12/90, REXX has been the subject of:

◆ 4 books (plus 4 in the works)

◆ 40 User Group Presentations

◆ 40 product manuals

◆ 40 articles

70

23   REXX-LSG

Published:

◆ **The REXX Language, A Practical Approach to Programming by Mike Cowlishaw (1985, 1990)**

◆ **Modern Programming Using REXX by Bob O'Hara and Dave Gomberg (1985,1988)**

◆ **REXX in the TSO Environment by Gabriel F. Gargiulo (1990)**

◆ **Practical Usage of REXX by Anthony Rudd (1990)**

◆ **Using ARexx on the Amiga by Chris Zamara and Nick Sullivan (1991)**

◆ **Amiga Programmers Guide to AREXX by Eric Giguere (1991)**

◆ **REXX Handbook edited by Gabe Goldberg and Phil Smith (1992)**

◆ **Programming in REXX by Charles Daney (1992)**

◆ **The AREXX Cookbook by Merrill Callaway (1992)**

◆ **REXX Tools and Techniques by Barry Nirmal (1993)**

◆ **REXX: Advanced Techniques for Programmers by Peter Kiesel (1993)**

Planned:

◆ **others known to be in the works**

REXX is International

REXX books and manuals have been translated into many languages, including:

- Chinese

- French

- German

- Japanese

- Portuguese

- Spanish
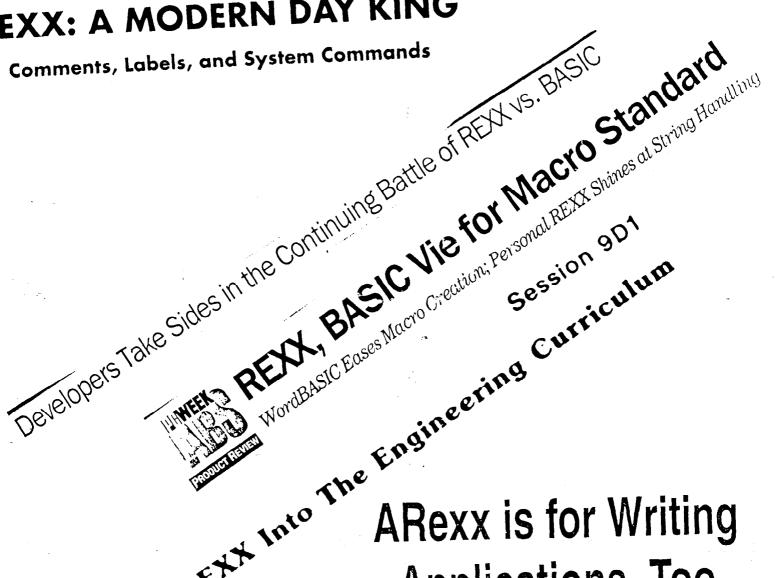
REXX is International - Part 2

REXX presentations have been given in the following countries:

- **Austria**
- **Australia**
- **Belgium**
- **Canada**
- **England**
- **France**
- **Germany**
- **Holland**
- **Ireland**
- **Japan**
- **Jersey**
- **Scotland**
- **Spain**
- **United States**
- **Wales**

As of 1982, MFC had received mail from over 30 countries!

REXX: A MODERN DAY KING

Comments, Labels, and System Commands

Developers Take Sides in the Continuing Battle of REXX VS. BASIC

REXX, BASIC Vie for Macro Standard

WordBASIC Eases Macro Creation; Personal REXX Shines at String Handling

Session 9D1

Introducing REXX Into The Engineering Curriculum

ARexx is for Writing Applications, Too

rexx:

Not Just a Wonder Dog

Halfway between a batch interpreter and a full-blown language, Rexx can quickly integrate applications

74

The Next Step In REXX Programming

Extending ARexx

With the help of a few libraries, you can build menus and requesters for your ARexx programs.

Best Language — REXX: A New King

The Best of Both Worlds:

CLISTs and REXX in a TSO/ISPF Environment

ARexx...for

ARexx is for everyone. . .not just programmers.

Everyone.

Here's an easy course on how to put the power of ARexx in your hand

75

REXX-LS

EXOTIC LANGUAGE OF THE MONTH CLUB

REXX: A beginner's alternative

All Hail REXX

or what you should know about IBM's soon to be ubiquitous procedural language

For Programmers

REXX — A Multifaceted Tool
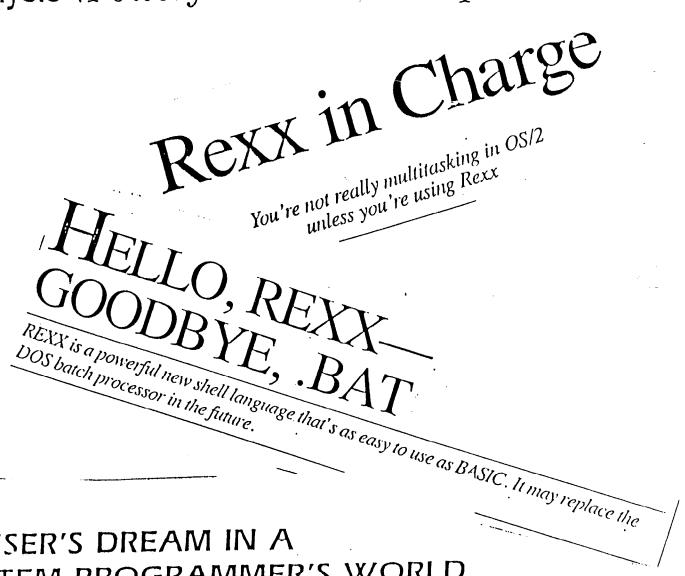
WHY IS REXX SO POPULAR?

REXX:

REXX the Wonder Language

REXX—Portrait of a New Procedures Language

Capture cross-system capabilities with REXX

ANALYSIS

Lotus Makes a Case for REXX
To Foil Microsoft's BASIC Plan

Analysis \ *Powerful REXX vs. Popular BASIC*

Rexx in Charge

You're not really multitasking in OS/2 unless you're using Rexx

HELLO, REXX— GOODBYE, .BAT

REXX is a powerful new shell language that's as easy to use as BASIC. It may replace the DOS batch processor in the future.

REXX

A USER'S DREAM IN A
SYSTEM PROGRAMMER'S WORLD

Utilize The Power Of REXX/CP/CMS

TEST DRIVE

AREXX

(The integrative language)

A language adopted by IBM comes to the Amiga – and has started to change many other applications.

REXX:

The system application architecture connection

REXX Language Level

REXX Level	Usage
3.20	CMS release 3
3.40	CMS release 4, 5, 5.5 MUSIC/SP version 2.2
3.45	CMS release 6 TSO/E version 2, release 1
3.46	CMS release 6 with SPE TSO/E ver 2, rel 1 with APAR 370 compiler SAA Procedures Language level 1

REXX-LS(

REXX Language Level ...

3.48	OS/400 rel 1.3 VM/ESA rel 1.2.0 TSO/E ver 2.4 SAA REXX/370 compiler rel 2
3.50	Cowlishaw 1985 book Portable REXX ver 1.05 (DOS) uniREXX (UNIX, AIX) Personal REXX version 2.0 (OS/2, DOS) AREXX (Amiga) TREXX (Tandem) Open REXX (DOS, OS/2 MVS, VMS)
4.00	OS/2 release 1.3, 2.0 Cowlishaw 1990 book SAA Procedures Language level 2 Personal REXX version 3.0 (WINDOWS, OS/2, DOS) Portable REXX ver 1.10 (DOS) REXX/Windows

31 REXX-LSG

Implementations

There are priced REXX implementations for:

- AIX
- Amiga (interpreter/compiler)
- DOS
- OS/2
- OS/400
- Tandem
- TSO (interpreter/compiler)
- UNIX
- VM (interpreter/compiler)
- VMS
- VSE (interpreter/compiler)
- WINDOWS

from 9 different sources.

There are freeware/shareware implementations for:

- MAC
- UNIX

from 4 different sources.

81

REXX Implementations by year First Available

Year	New Platform
1983	VM (IBM)
1985	PC-DOS (Mansfield)
1987	Amiga (W. S. Hawes)
1988	PC-DOS (Kilowatt) TSO (IBM)
1989	OS/2 (Mansfield) VM Compiler (IBM)
1990	UNIX/AIX(Workstation Group) Tandem (Kilowatt) OS/2 (IBM) AS/400 (IBM)
1991	DEC/VMS (Workstation Group) VM Compiler(Systems Center) 370 compiler (IBM) Amiga Compiler (Dineen Edwards Group)
1992	Windows (Kilowatt) Windows (Quercus) MS-DOS (Tritus) UNIX/AIX (Becket Group)

82

33

REXX Curiosities

Name of a REXX Entity

What is the name of a REXX entity??? Is it:

◆   **Program**

◆   **Exec**

◆   **Macro**

◆   **Procedure**

◆   **Shell**

◆   **Script**

Term definitions are:

Program: A sequence of instructions suitable for processing by a computer. Processing may include the use of an assembler, a compiler, an interpreter, or a translator to prepare the program for execution, as well as to execute it.

Exec procedure: In VM, a CMS function that allows users to create new commands by setting up frequently used sequences of CP commands, CMS commands, or both, together with conditional branching facilities, into special procedures to eliminate the repetitious rekeying of those command sequences.

Macro instruction: An instruction that when executed causes the execution of a predefined sequence of instructions in the same source language.

Procedure: A set of related control statements that cause one or more programs to be performed.

85

Name of a REXX Entity ...

shell: A software interface between a user and the operating system of a computer. Shell programs interpret commands and user interactions on devices such as keyboards, pointing devices, and touch-sensitive screens and communicate them to the operating system.

script: In artificial intelligence, a data structure pertaining to a particular area of knowledge and consisting of slots which represent a set of events which can occur under a given situation.

Note: definitions come from the IBM "Dictionary of Computing".

     REXX-LS(

Is REXX a....?

- **Programming language**

- **Exec language**

- **Macro language**

- **Procedure language**

- **Command procedures language**

- **Extension language**

- **System Extension language**

- **Glue language**

- **Shell language**

- **Batch language**

- **Scripting language**

87 38   REXX-LS(

Cowlishaw Book Cover

The 1990 edition of the Cowlishaw book has a new cover which includes the following changes:

◆ **King now matches the playing cards King of Spades meaning**

• **King faces the opposite way**

• **King holds the sword differently**

King was chosen because REX is Latin for King!

REXX Trivia Quiz Answers

Michael REXX
> C. Mike Cowlishaw knights of VM name

Dame Cathie the symposiarch
> N. Cathie Dager knights of VM name

Frankenrexx M. Neil Milsted's nickname

RIXX   K. Rick McGuire licence plate

867-REXX L. Quercus telephone number

Procedures Language
> G. Former IBM SAA name for REXX

AREXX   O. name of Amiga REXX
TREXX   Q. name of Tandem REXX
uni-REXX D. name of AIX REXX from Workstation Group

1979   B. REXX formation started
1983   A. first REXX interpreter shipped
1985   J. first trade press book on REXX
1989   H. first REXX compiler available
1990   P. first REXX Symposium held
1991   I. ANSI work on REXX started

13   F. number of platforms with a REXX
11   E. number of trade press REXX books

REXX-LS

REXXbits Summary

REXXbits Summary

◆ **REXX is an international language**

◆ **REXX is growing in numbers of**

   • **implementers**

   • **different platforms available**

   • **users**

   • **books/articles.**

◆ **REXX is in the process of being formally standardized.**

◆ **REXX usage is in the "eyes of the beholder"!**

Help Wanted

Please send me email when you find the following:

◆   **New REXX books**

◆   **New REXX articles**

◆   **New REXX implementations**

◆   **Commercial products which:**

•   **written in REXX**

•   **use REXX as an extension language**

•   **extend REXX**

I will share results on the latter category as I have done on the 3 former ones.