

REXXoids

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REXXoids

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Preface

This presentation is to be given at the second annual REXX Symposium held at Asilomar in California on May 8-9, 1991.

REXXoid is not an English word to be found in the dictionary. REXXoid is meant to be little bits of information I have collected about REXX.

If there were a Jeopardy category on REXX, this information would probably show up there. Most of this information will change as time passes. This presentation is meant to be a snapshot when I collected the information.

REXX History

REX becomes REXX

In the beginning, there was

REX (REformed eXecutor)

which eventually became

REXX (REstructured eXtended eXecutor)

REXX Firsts

- ◆ 1979 - Mike Cowlshaw (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

Jeopardy: REXX for \$1000

Answer is:

5

Question is:

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

Jeopardy: REXX for \$800

Answer is:

350

Question is:

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

Jeopardy: REXX for \$600

Answer is:

4000

Question is:

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

Jeopardy: REXX for \$400

Answer is:

500,000

Question is:

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

Jeopardy: REXX for \$200

Answer is:

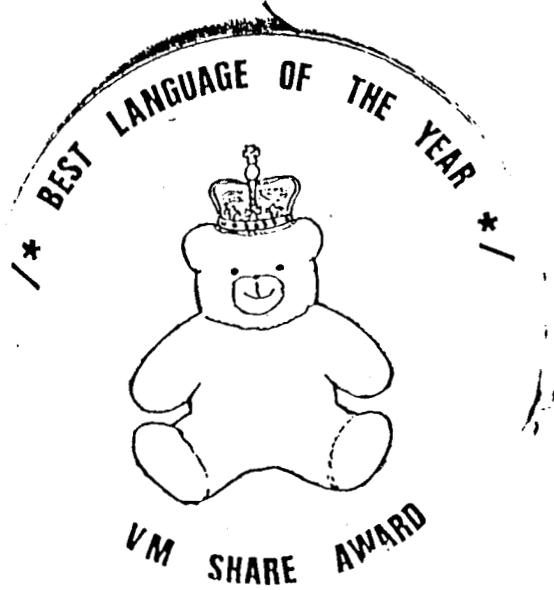
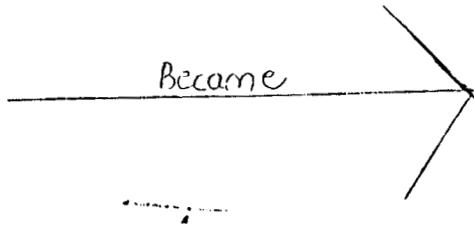
over 6,000,000

Question is:

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

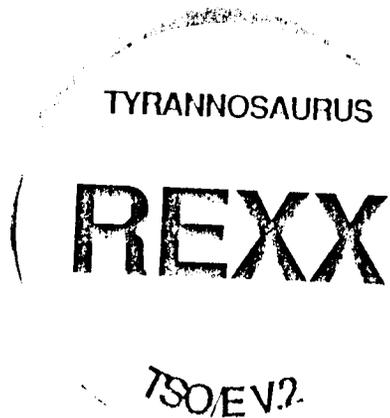
REXX Buttons

Customer Created:



REXX Buttons ...

Customer Created:



IBM Created:



Text of the REXX Buttons

◆ General

- REX is not BASIC
- REXX is not BASIC
- The beginning /* of the end

◆ VM

- /* Best Language of the Year */ VM SHARE AWARD
- VM/SP has REXX Appeal
- RXSQL good medicine!

◆ 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

REXX Excitements

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**

ANSI

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.

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

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

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**

REXX Books

Published:

- ◆ **The REXX Language, A Practical Approach to Programming by Mike Cowlshaw (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)**

Planned:

- ◆ **REXX Handbook edited by Gabe Goldberg and Phil Smith**
- ◆ **Amiga Programmers Guide to AREXX by Eric Giguere**
- ◆ **2 others**

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**
- ◆ **Japan**
- ◆ **Jersey**
- ◆ **Scotland**
- ◆ **Spain**
- ◆ **United States**
- ◆ **Wales**

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

REXX Trade Press Article Titles

===== 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

REXX:
REXX the Wonder Language

**WHY IS
REXX SO
POPULAR?**

**REXX—Portrait of a
New Procedures Language**

Capture cross-system capabilities with REXX

REXX Trade Press Article Titles

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.

RE

XX

The system
architecture

application
connection

Implementations

There are REXX implementations for:

- ◆ AIX
- ◆ Amiga
- ◆ DOS
- ◆ OS/2
- ◆ OS/400
- ◆ Tandem
- ◆ TSO
- ◆ UNIX
- ◆ VM
- ◆ VMS

from 7 different sources.

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	Amiga (Commodore) UNIX (Workstation Group) AIX (Workstation Group) Tandem (Kilowatt) OS/2 (IBM) AS/400 (IBM)
1991	DEC/VMS (Workstation Group)
future	VM Compiler (Systems Center) 370 Compiler (IBM) Windows (Quercus)

REXX Curiosities

Name of a REXX Entity

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

- ◆ Program

- ◆ Exec

- ◆ Macro

- ◆ Procedure

- ◆ Shell

- ◆ Script

Name of a REXX Entity ...

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.

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".

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**

Cowlishaw Book Cover

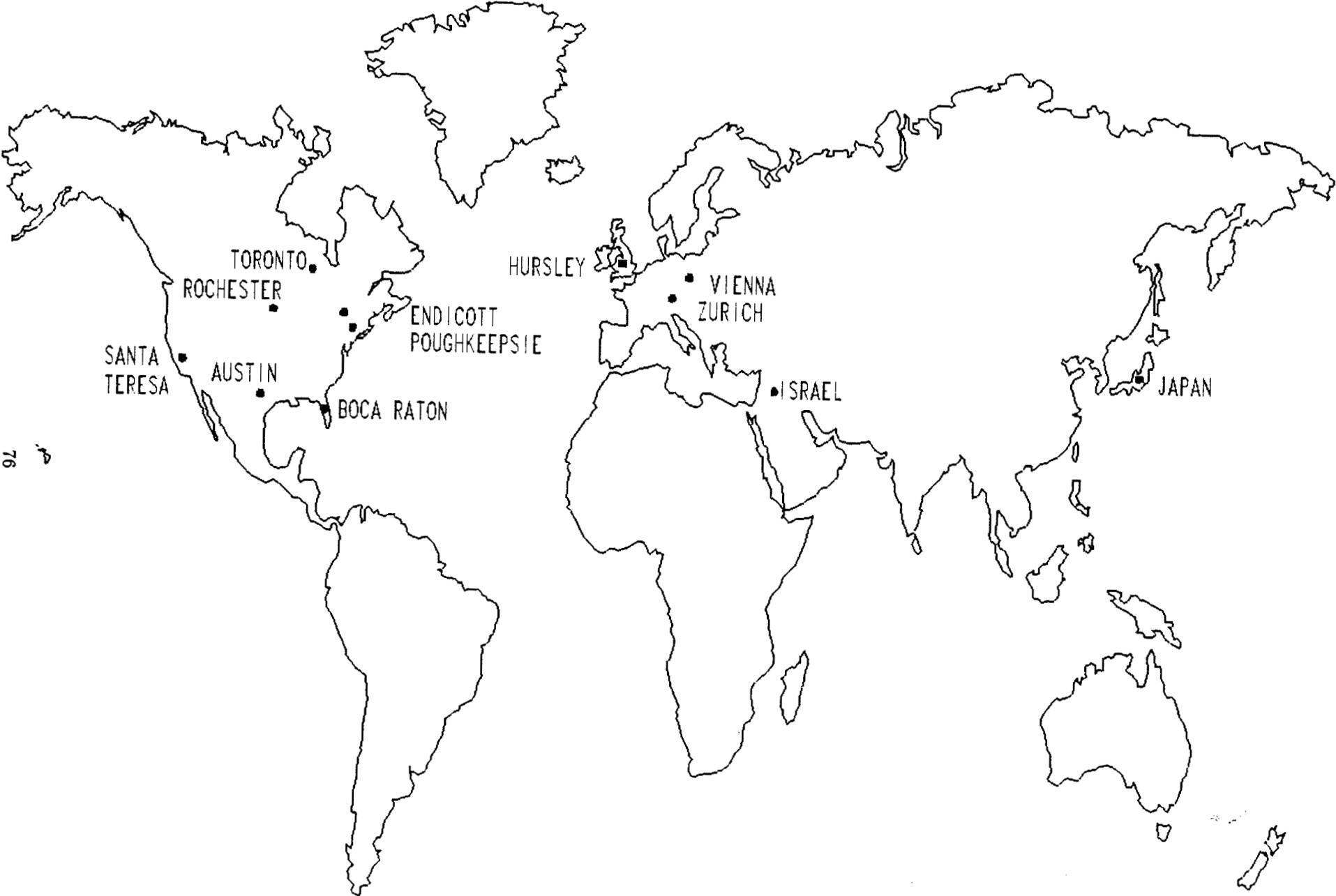
The 1990 edition of the Cowlishaw book has a new cover which includes the following changes:

- ◆ **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!

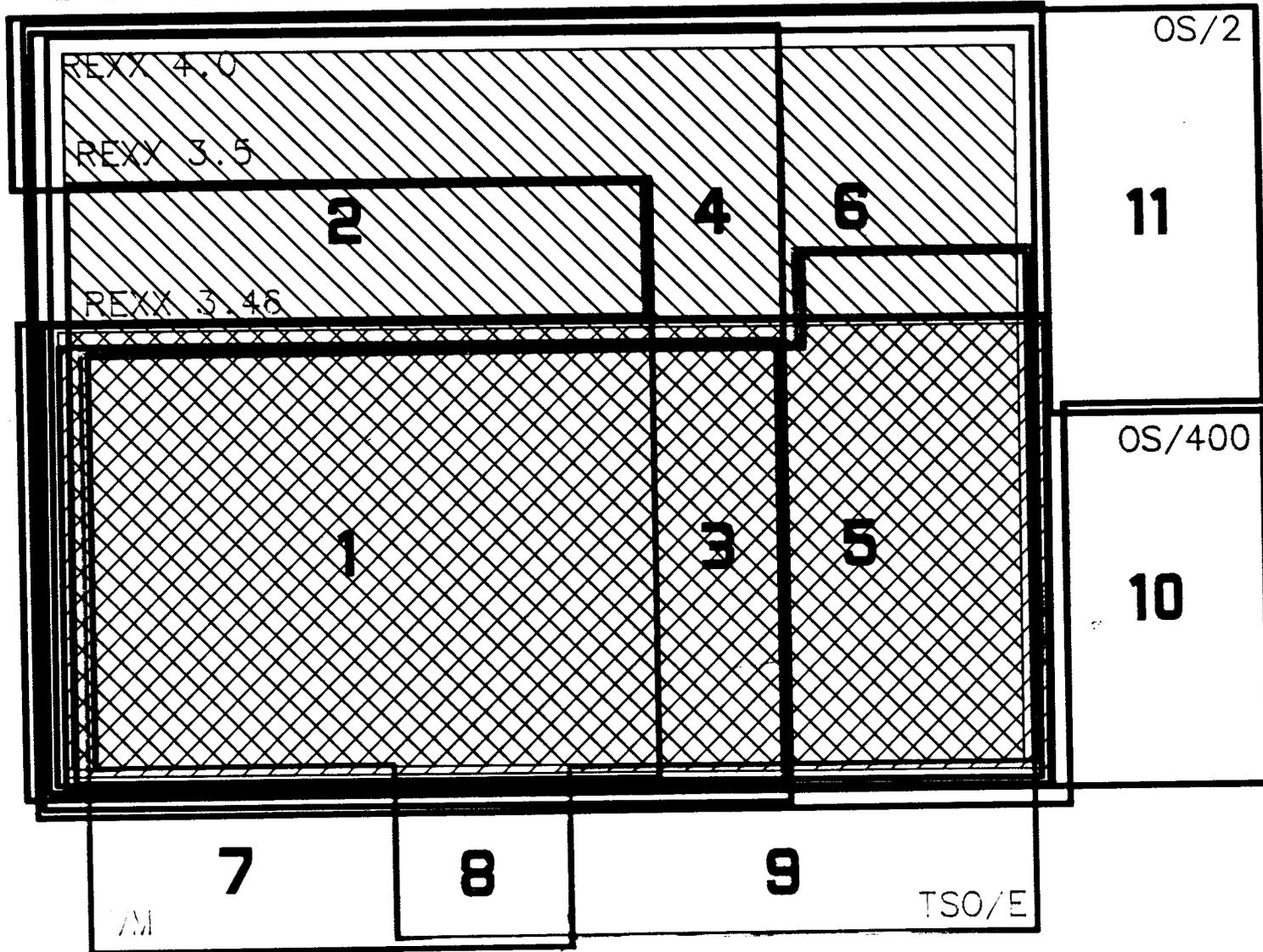
IBM REXX Explanations

IBM PROCEDURES LANGUAGE/REXX: WORLDWIDE DEVELOPMENT



76

PL LEVEL 2



PL LEVEL

7

L000012

L000012

Relationship of REXX/PL/IBM Implementations

Box	1	2	3	4	5	6	7	8	9	10	11
REXX language level 3.46	x		x								
REXX language level 3.5	x	x									
REXX language level 4.0	x	x	x	x							
SAA Procedures Language Level 1 (PL1)	x		x		x						
SAA Procedures Language Level 2 (PL2)	x	x	x	x	x	x					
IBM VM interpreter	x		x		x		x	x			
IBM TSO/E interpreter	x		x		x			x	x		
IBM OS/2 interpreter	x	x	x	x	x	x					x
IBM AS/400 interpreter	x		x	x	x	x				x	

Relationship of REXX/PL/IBM Implementations ...

	box	3.5	4.0	PL1	PL2	VM	TSO	OS2	400
Base REXX lang	1	x	x	x	x	x	x	x	x
Level 3.46 adds eg. CONDITION	3		x	x	x	x	x	x	x
Level 3.5 adds eg STREAM I/O	2	x	x		x			x	
SAA PL1 adds eg DBCS support	5			x	x	x	x	x	x
Level 4.0 adds eg binary data	4		x		x			x	x
SAA PL2 adds eg REXX exits	6				x			x	x
VM adds eg. DIAG	7					x			
TSO adds eg. DELSTACK	8						x		
370 adds eg. UPPER	9					x	x		
OS/2 adds eg. BEEP	11							x	
AS/400 adds eg. SETMSGRC	10								x

REXXoids Summary

REXXoids 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"!**