ARx_Func4.ag

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Contents

Chapter 1

ARx_Func4.ag

1.1 "

```
AN AMIGAGUIDE® TO ARexx                    Second edition (v2.0)
by Robin Evans

   Note: This is a subsidiary file to ARexxGuide.guide. We recommend
   using that file as the entry point to this and other parts of the
   full guide.

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```

1.2 ARexxGuide | Functions reference (10 of 12) | MESSAGE PORT

```
         CLOSEPORT
         (<name>)

         GETARG
         (<packet>, [<number>])

         GETPKT
         (<name>)

         OPENPORT
         (<name>)

         REPLY
         (<packet>, <rc>)

         TYPEPKT
         (<name>)

         WAITPKT
         (<name>)

             Also see  ARexx control functions
```

Message ports are the primary means of communication among the many tasks
and processes running on an Amiga. The ARexx resident process uses message
ports extensively both for its own communication with the OS and to allow
scripts to send commands to other environments.

These functions let an ARexx script set up and maintain its own message
ports. The functions do not provide the level of control possible from a
lower-level language like C, but they do allow for useful and powerful
interaction among different scripts.

1.3 ARexxGuide | Functions reference | Message Ports (1 of 7) | CLOSEPORT

                                                            a rexxsupport.library ←
                                                                  function
rv = CLOSEPORT(<name>)
     rv is a Boolean value

Closes the port opened as <name>. The port must have been opened within
the current ARexx program through a call to
                 OPENPORT()
                 .

                 Technique note: Use message ports in a script

 Compatibility issues:
    All support functions are system specific.

1.4 ARexxGuide | Functions reference | Message Ports (2 of 7) | GETARG

                                                            a rexxsupport.library ←
                                                                  function
rv = GETARG(<packet>, [<number>])
     rv is a string

Extracts a command, function name, or argument string from a message
packet. The <packet> argument must be a valid address string obtained
from a prior call to
                 GETPKT()
                 . If <number> is specified, then only the
argument in that position is extracted. <number> must be less than or
equal to the argument count for the packet.

                 Technique note: Use message ports in a script

 Compatibility issues:

```
    All support functions are system specific.
```

Next: GETPKT() | Prev: CLOSEPORT() | Contents: Port mgt. func.

1.5   ARexxGuide | Functions reference | Message Ports (3 of 7) | GETPKT

```
                                                a rexxsupport.library  ←
                                                        function
rv = GETPKT(<name>)
    rv is an  address string


Returns the  address string  of a message packet queued at the <name>d
port. The message port must have been opened within the current ARexx
program by a call to
                OPENPORT()
                . If no messages are available, the
returned value will be '0000 0000'x (which is the same as
                NULL()
                ).

                Technique note:  Use message ports in a script


    Also see
                WAITPKT
                Compatibility issues:
    All support functions are system specific.
```

Next: OPENPORT() | Prev: GETARG() | Contents: Port mgt. func.

1.6   ARexxGuide | Functions reference | Message Ports (4 of 7) | OPENPORT

```
                                                a rexxsupport.library  ←
                                                        function
rv = OPENPORT(<name>)
    rv is an  address string


Creates a public message port with the specified (and case-sensitive)
<name>. A null address ('0000 0000'x) is returned if the port could not be
initialized.

                Technique note:  Use message ports in a script


    Also see
                CLOSEPORT

                WAITPKT
                Compatibility issues:
    All support functions are system specific.
```

Next: REPLY() | Prev: GETPKT() | Contents: Port mgt. func.

1.7   ARexxGuide | Functions reference | Message Ports (5 of 7) | REPLY

```
                                              a rexxsupport.library  ↩
                                                      function
rv = REPLY(<packet>, <rc>)
     rv is insignificant


A message packet with the primary result field set to the value given by
<rc> is sent to <packet>, which must be a valid 4-byte address (usually
obtained by a prior call to
                 OPENPORT()
                    .

                 Technique note:  Use message ports in a script


   Also see
                 GETPKT
                 Compatibility issues:
   All support functions are system specific.

Next: TYPEPKT() | Prev: OPENPORT() | Contents: Port mgt. func.
```

1.8   ARexxGuide | Functions reference | Message Ports (6 of 7) | TYPEPKT

```
                                              a rexxsupport.library  ↩
                                                      function
rv = TYPEPKT(<address>, [<mode>])
     rv is a   string
        or a   number
        or a   Boolean value


Although it is rarely needed in message ports handled by the current
version of ARexx, this function returns information about a message packet
received at the <address>. The <address> argument must be a valid
 address string  usually obtained from
                 WAITPKT()
                    .


When the <mode> option is omitted, the function returns a packed 4-byte
value, which can be unpacked to obtain information that is (with one
exception) also available by specifying a mode argument. The meaning of
each byte is explained below:

The mode arguments (which may be specified with only the first letter) are:

   Mode       Information provided
   ---------  ------------------------------------------------------------
   Arguments  Returns the number of arguments. This information is
         contained in byte 0 of the unpacked return string.
```

```
   Command     Returns TRUE (1) if the packet was called as a command.
            This information is contained in byte 3 of the return
            string, which has a value of '01'x for commands.
   Function    Returns TRUE (1) if the packet was called as a function.
            This information is contained in byte 3 of the return ,
            string, which has a value of '02'x for functions.
```

Byte 2 of the packed return string specifies the modifier flags that
were set when the packet was called. The
                  REPLY()
                  function automatically
handles any of the modifiers set by the calling command or function.

Because a script written with the current version of ARexx cannot serve
as a reliable function host, calls to a port opened with an ARexx script
should be sent as commands (which have a single argument string by
default). That makes this function somewhat superfluous, but since it
echoes an interface function that is genuinely useful in those other
languages, it can be useful in prototyping an ARexx interface that will
be transferred to a lower-level language

 Compatibility issues:
   All support functions are system specific.

Next: WAITPKT() | Prev: REPLY() | Contents: Port mgt. func.

1.9   ARexxGuide | Functions reference | Message Ports (7 of 7) | WAITPKT

```
                                           a rexxsupport.library  ←
                                                 function
rv = WAITPKT(<name>)
     rv is a  Boolean value
```

Waits for a message to be received at the <name>d port which must have
been opened with a prior call to
                  OPENPORT()
                  . The function
                  GETPKT()
                  is used to retrieve the packet.

                  Technique note: Use message ports in a script

 Compatibility issues:
   All support functions are system specific.

Next: Port mgt. func. | Prev: TYPEPKT() | Contents: Port mgt. func.

1.10   ARexxGuide | Functions reference (11 of 12) | LOW-LEVEL

```
                 ALLOCMEM
                 (<length>, [<attribute>])

                 BADDR
                 (<BCPL address string>)

                 EXPORT
                 (<address>, [<string>], [<length>],[<padchar>])

                 FORBID
                 ()

                 FREEMEM
                 (<address>,<length>)

                 FREESPACE
                 ([<address>, <length>])

                 GETSPACE
                 (<length>)

                 IMPORT
                 (<address>, [<length>])

                 NEXT
                 (<address>,[<offset>])

                 NULL
                 ()

                 OFFSET
                 (<address>,<displacement>)

                 PERMIT
                 ()

                 STORAGE
                 ([<address>], [<string>], [<length>],[<padchar>])
```

Related function:
    SHOWLIST

Most ARexx scripts will never need these functions since the ARexx
resident process takes care of things like the memory allocations needed
to store variable references.

The functions in this list will be familiar to those who use assembler or
C languages to program the machine since they closely parallel the
similarly-named Amiga system functions that are used extensively in those
environments. That's probably one reason they are included in the support
library. They provide a useful tool for prototyping a program -- a way
to write an early version of a program in ARexx, an interpreted language
that allows quick and simple changes and has powerful debugging tools.
These support functions allow a programmer to test program logic and
effectiveness in ARexx before committing the code to a compiled language.

With care, they may also be used in any ARexx script that needs special
access to aspects of the OS not normally available in ARexx. Note, though,
that these are the most dangerous functions included in the ARexx package
since many of them circumvent the checks and balances usually provided by
the ARexx resident process.

The address string
~~~~~~~~~~~~~~~~~~~
The <address> argument used by many of these functions must be a 4-byte
address string. This is a four-character string and not a number as might
be used in other languages. Use the c2x() or c2d() functions to
translate the <address> into more readable form. (See note at
                  OFFSET()
                  about computing new addresses with the character translation   ←
                     functions.)

The Amiga ROM Kernal Manuals explain in detail the system functions called
by these ARexx functions. The Sullivan & Zamara book, Using ARexx on the
Amiga is recommended reading for those who want more information about how
these functions can be used in ARexx scripts.

1.11   ARexxGuide | Functions reference | Low-level (1 of 13) | ALLOCMEM

                                                        a rexxsupport.library ←
                                                              function
rv = ALLOCMEM(<length>, [<attribute>])
    rv is an address string

Allocates a block of memory of the specified <length> from the system
free-memory pool.

<attribute> may be any of the standard flags used with the Exec AllocMem
function, but must be supplied as a four-byte string. The default is public
(MEMF_PUBLIC).

    Example:
          addr = allocmem(32);
          call
                freemem(addr,32)
              ;

This support function calls the OS AllocMem() function. Care should be
taken in using it since ARexx performs no special checks and will not
automatically deallocate the memory block when the program exits.

    Also see
                GETSPACE
                Compatibility issues:
    All support functions are system specific.

1.12   ARexxGuide | Functions reference | Low-level (2 of 13) | BADDR

```
                                            a rexxsupport.library function
rv = BADDR(<BCPL address string>)
     rv is an address_string
```

Converts a BPTR to an CPTR address.

```
 Compatibility issues:
   All support functions are system specific.
```

Next: EXPORT() | Prev: ALLOCMEM() | Contents: Low-level func.

1.13   ARexxGuide | Functions reference | Low-level (3 of 13) | EXPORT

```
                                            a rexxsupport.library  ←↩
                                                    function
rv = EXPORT(<address>, [<string>], [<length>],[<padchar>])
     rv is a   number
```

Copies data from the optional <string> into the area starting at
<address>. Sufficient memory should have been previously allocated with a
call to

```
               ALLOCMEM()
               or
               GETSPACE()
               .
```

If <string> is shorter than <length>, then the <padchar> (which defaults
to a null) will be used to fill out the space.

The value returned is the number of bytes written to memory. A pointer to
the new address can be obtained by adding the value returned to the
current address using

```
               OFFSET()
               .
```

```
   Example:
     /* copies a file from disk and stores it in memory             **
     ** A file, 'Input', must have been opened previously, and an       **
     ** address [CurAddr] obtained through
             getspace()
             .                         */
     do until eof('Input')
         /*  readch()  reads the file, either the whole thing, or    **
         **             the first 64k bytes                          **
         ** export()   stores value returned by readch() in memory.  **
         ** offset()   computes the next address based on the return **
         **             from export().                               */
         CurAddr = offset(CurAddr, export(CurAddr,readch('Input',65535)))
```

```
        end

    Also see
                    STORAGE

                    IMPORT
                    Compatibility issues:
    All support functions are system specific.
```

1.14 ARexxGuide | Functions reference | Low-level (4 of 13) | FORBID

```
                                            a rexxsupport.library  ←
                                                   function
rv = FORBID()
     rv is a   number
```

Task switching can be controlled by calls to FORBID() and
                  PERMIT()
                  . The
return value is the current nesting count which is -1 when task-switching
is enabled. Since ARexx scripts run as separate tasks, no harm is done if
the program ends with task switching forbidden, but it is good practice to
enable multitasking as quickly as possible.

This function should be used whenever items are read from the various
system lists since, if multitasking is enabled, another task might cause a
change in the list while it is being read by the ARexx script. The Amiga
ROM Kernal Manauls warn, "To access these lists without forbidding
jeopardizes the integrity of the entire system." The warning applies to
any language, so this is not something unique to ARexx.

The interpreter will handle calls to forbid() and permit() when the
SHOWLIST() function is used.

All forms of I/O should be avoided while FORBID() is in effect, since
any kind of I/O (including instructions like SAY and PULL , or
functions like
                  WAITPKT()
                  and OPEN()) will cause the system to wait for
I/O completion and to disable the forbidden state while it waits.

    See example at
                  IMPORT()
                                        Technique note: Determine library version number

 Compatibility issues:
    All support functions are system specific.

```

## 1.15   ARexxGuide | Functions reference | Low-level (5 of 13) | FREEMEM

```
                                                 a rexxsupport.library ←
                                                         function
rv = FREEMEM(<address>,<length>)
     rv is a Boolean value

Releases the block of memory of <length> (an integer) size at <address>
to the system freelist. <address> must be a valid 4-byte address, usually
obtained by a prior call to
                 ALLOCMEM()
                  .

   Example:
         addr = allocmem(32);
         call freemem(addr,32);

   Also see
                 FREESPACE
                 Compatibility issues:
   All support functions are system specific.

Next: FREESPACE() | Prev: FORBID() | Contents: Low-level func.
```

## 1.16   ARexxGuide | Functions reference | Low-level (6 of 13) | FREESPACE

```
                                                 a rexxsupport.library  ←
                                                         function
rv = FREESPACE([<address>, <length>])
     rv is a  Boolean value
        or a   number

Releases to the internal pool maintained by the  interpreter  the block of
memory of <length> (an integer) size at <address> (which should have been
obtained through a previous call to
                 GETSPACE()
                 ) . If called without
arguments, the function returns the amount of memory available in the
interpreter's internal pool.

The interpreter will release the memory when a script ends even if this
function is not called.

   Also see
                 FREEMEM
                 Compatibility issues:
   All support functions are system specific.

Next: GETSPACE() | Prev: FREEMEM() | Contents: Low-level func.
```

1.17   ARexxGuide | Functions reference | Low-level (7 of 13) | GETSPACE

```
                                                 a rexxsupport.library  ←
                                                          function
rv = GETSPACE(<length>)
     rv is an  address string
```

Allocates a block of memory of <length> size (a decimal number) from the
interpreter's internal pool.

The memory is automatically returned to the system when the ARexx script
that calls this function terminates.

```
   Example:
      /**/
      MemWant = 19764
         /* Is there enough memory for the allocation? */
      if storage() > MemWant then
         StoreAddress = getspace(MemWant)
      else
         say 'Not enough memory.

   Also see
                  FREESPACE

                  ALLOCMEM

                  STORAGE
                  Compatibility issues:
   All support functions are system specific.
```

1.18   ARexxGuide | Functions reference | Low-level (8 of 13) | IMPORT

```
                                                 a rexxsupport.library  ←
                                                          function
rv = IMPORT(<address>, [<length>])
     rv is a   string
```

A string of <length> (an integer) bytes is returned. It is copied from
memory starting at the specified <address> (which must be specified as a
4-byte address string. If <length> is not specified, values will be copied
until a null byte is encountered.

```
   Example:
      /* Imports name and size of default font */
   gfxbase=showlist(l, 'graphics.library',,a)
   call forbid
   FntAddr = next(gfxbase,154)
   DefFont = IMPORT(next(FntAddr, 10))
   FSize = c2d(IMPORT(offset(FntAddr, 20),2))
   call permit
```

    Also see
                    EXPORT
                              SHOWLIST

                    NEXT

                    OFFSET

                    FORBID

                    PERMIT
                              Technique note: Determine library version number

 Compatibility issues:
   All support functions are system specific.

1.19   ARexxGuide | Functions reference | Low-level (9 of 13) | NEXT

                                            a rexxsupport.library ↩
                                                function
rv = NEXT(<address>,[<offset>])
    rv is an address string

Returns the 4-byte address string at <address> plus <offset>. The function
combines features of
                import()
                and
                offset()
                . Like import(), it reads a
value from memory, but is designed for the specific task obtaining an
address. Like offset(), it will, when given a decimal offset, calculate a
new address in the proper format.

A linked-list maintained by the operating system can be followed by using
the following format:

   NextNode = NEXT(<node-address>)
   PrevNode = NEXT(<node-address>, 4).

   See example at
                IMPORT()
                  Also see
                OFFSET
              The base address of most system resources can be obtained with the
 SHOWLIST() function, using its fourth 'Address' argument.

 Compatibility issues:
   All support functions are system specific.

1.20   ARexxGuide | Functions reference | Low-level (10 of 13) | NULL

                                                                a rexxsupport.library ↩
                                                                        function
rv = NULL()
     rv is an address string

The result is a null pointer as a 4-byte string ('0000 0000'x).

   Also see
                  OFFSET
                                         Technique note: Use message ports in a script

 Compatibility issues:
   All support functions are system specific.

Next: OFFSET() | Prev: NEXT() | Contents: Low-level func.

1.21   ARexxGuide | Functions reference | Low-level (11 of 13) | OFFSET

                                                                a rexxsupport.library ↩
                                                                        function
rv = OFFSET(<address>,<displacement>)
     rv is an address string

Computes a new address as the signed offset from a base address.

<address> must be a valid 4-byte address string. <displacement> must be an
integer in decimal (not hexadecimal) form.

This function will compute the address of a field in a data structure
without requiring calls to C2D() and D2C() , and does so in a safer way
since -- unlike the return value of the translation functions -- the value
returned by offset() will always be a 4-byte address string.

     Example:
          say c2x(offset('0000 0000'x,4))   >>> 00000676

   See example at
                  IMPORT()
                    Also see
                  NEXT

                  NULL
                            C2X

                  Technique note: Determine library version number

 Compatibility issues:

All support functions are system specific.

Next: PERMIT() | Prev: NULL() | Contents: Low-level func.

1.22 ARexxGuide | Functions reference | Low-level (12 of 13) | PERMIT

                                                                  a rexxsupport.library ←
                                                                       function
rv = PERMIT()
      rv is a   number

Lowers by one the nesting count of
                  FORBID()
                  and returns the current
nesting count.

Each call to FORBID() will raise the nesting count by 1 from its base
count of -1. When the count reaches -1 after successive calls to FORBID()
and PERMIT(), multitasking will be possible once again.

If a task (a script) ends in a forbidden state, no harm is done since the
state is cleared automatically when the task ends, but it is good practice
to call PERMIT() as quickly as possible after entering a forbidden state.

        See example at
                  IMPORT()
                                          Technique note: Determine library version number

 Compatibility issues:
    All support functions are system specific.

Next: STORAGE() | Prev: OFFSET() | Contents: Low-level func.

1.23 ARexxGuide | Functions reference | Low-level (13 of 13) | STORAGE

                                                                  a rexxsupport.library ←
                                                                       function
rv = STORAGE([<address>], [<string>], [<length>],[<padchar>])
      rv is a   number

If all arguments are omitted, the function returns the amount of free
memory in the system.

If <address> is given (as a valid 4-byte address string) then data from
<string> will be copied to that address for <length> (an integer) bytes. If
<string> is shorter than <length>, then the space will be filled with
<padchar>.

The default pad character is a null.

```
    Examples:
         say storage()              >>> 7121608

    Also see
                   EXPORT

                   IMPORT
                   Compatibility issues:
    All support functions are system specific.
```

1.24   ARexxGuide | Functions reference (12 of 12) | BIT MANIPULATION

```
            BITAND
           (<string1>,<string2>, [<padchar>])

            BITCHG
           (<string>, <bit>)

            BITCLR
           (<string>, <bit>)

            BITCOMP
           (<string>,<string2>,[<padchar>])

            BITOR
           (<string1>,[<string2>],[<padchar>])

            BITSET
           (<string>, <bit>)

            BITTST
           (<string>, <bit>)

            BITXOR
           (<string1>,<string2>,[<padchar>])

                  Also see  Comparison functions
                            Number manipulation functions
```

The primary argument to each of these functions, and the value returned
by most of them is a character or character string. The functions work at
the low bit-level so familiar to those who program in assembly language.
The binary representation of the character 'a', for example, is '01100001'
in the ASCII character set which can be expressed as '01100001'b or as
c2b('a'). The function BITSET() can change just one bit in that 'field'.
BITSET('a', 1) will return 'c' -- the character with the binary
representation of '01100011'.

A string 0's and 1's is not a proper argument to any of these functions
since the 0 would be interpreted as ASCII character 48 (decimal) or
00110000 (binary). Using a binary string , on the other hand, will cause

the 0's and 1's to be translated to the character representation expected
by the functions.

 Compatibility issues :
   Some examples in the following nodes use alphabetic characters to show
   how a function works. The results shown here are valid only for the
   ASCII character set. Since REXX was developed and is still used largely
   on systems that use a different character set, such examples are
   frowned upon in the REXX standard.

1.25   ARexxGuide | Functions reference | Bit-wise (1 of 8) | BITAND

```
rv = BITAND(<string1>,<string2>, [<padchar>])
    rv is a  string
```

The result is equal to the length of longer of the two supplied strings
which are logically AND'ed together bit by bit. If a pad character is
supplied, then the shorter string is filled out with that character until
it is the same length as the other string.

The default <padchar> is the null character.

```
   Examples:
      say     bitand('A', 'J')                    >>> @
      say     bitand('01000001'b, '01001010'b)  >>> @
      say c2b(bitand('01000001'b, '01001010'b)) >>> 01000000
```

1.26   ARexxGuide | Functions reference | Bit-wise (2 of 8) | BITCHG

```
rv = BITCHG(<string>, <bit>)
    rv is a  string
```

The state of the specified <bit> in <string> is changed. Bit 0 is is the
low-order bit of the rightmost byte of the string.

```
   Examples:
      /**/
      say bitchg('a', 5)                        >>> A
      say bitchg('A', 5)                        >>> a
      say c2b(bitchg('01101100'b, 3))          >>> 01100100
```

 Compatibility issues:
   This function is an extension that is not defined in TRL2 . Although a
   function of this name might be included in other REXX implementations,
   there is no assurance that it will be.

1.27   ARexxGuide | Functions reference | Bit-wise (3 of 8) | BITCLR

```
rv = BITCLR(<string>, <bit>)
     rv is a  string
```

The specified <bit> in <string> is cleared (set to 0). Bit 0 is is the
low-order bit of the rightmost byte of the string.

```
    Examples:
      /**/
      say bitclr('a', 5)                      >>> A
      say bitclr('A', 5)                      >>> A
      say c2b(bitchg('01101100'b, 3))         >>> 01100100
```

```
 Compatibility issues:
   This function is an extension that is not defined in  TRL2 . Although a
   function of this name might be included in other REXX implementations,
   there is no assurance that it will be.
```

Next: BITCOMP() | Prev: BITCHG() | Contents: Bit-wise func.

1.28   ARexxGuide | Functions reference | Bit-wise (4 of 8) | BITCOMP

```
rv = BITCOMP(<string>,<string2>,[<padchar>])
     rv is a  number
```

The result indicates the first position of the bit at which the two
supplied strings differ or -1 if they are the same. The shorter string
is padded with <padchar> before the comparison.

The default pad character is a null.

```
    Examples:
      say bitcomp('0011'b, '0111'b)           >>> 2
      say bitcomp('c', 'C')                   >>> 5
      say bitcomp('b', 'B')                   >>> 5
      say bitcomp('0a'x, '1a'x)               >>> 4
```

```
 Compatibility issues:
   This function is an extension that is not defined in  TRL2 . Although a
   function of this name might be included in other REXX implementations,
   there is no assurance that it will be.
```

Next: BITOR() | Prev: BITCLR() | Contents: Bit-wise func.

1.29   ARexxGuide | Functions reference | Bit-wise (5 of 8) | BITOR

```
rv = BITOR(<string1>,[<string2>],[<padchar>])
     rv is a  string
```

The result is equal to the length of longer of the two supplied strings
which are logically (inclusively) OR'ed together bit by bit. If a pad

character is supplied, then the shorter string is filled out with that
character until it is the same length as the other string.

The default <padchar> is the null character.

```
    Example:
        say bitor('A', 'J')                    >>> K
        say bitor('01000001'b, '01001010'b)    >>> K
        say bitor('Amiga FOREVER')             >>> amiga forever
        say bitor('FRANÇOIS')                  >>> françios
        say bitor('THIS_THAT')                 >>> thisthat
```

It is unsafe to use bitor() for character translation since characters
like '[' and '_' (ASCII 91 to 96) that come between 'Z' and 'a' in the
ASCII set are treated improperly. The TRANSLATE() function provides a
safe way to implement a user-defined lower() function.

Next: BITSET() | Prev: BITCOMP() | Contents: Bit-wise func.

1.30   ARexxGuide | Functions reference | Bit-wise (6 of 8) | BITSET

```
rv = BITSET(<string>, <bit>)
    rv is a  string
```

The specified <bit> in <string> is set to 1.

```
    Examples:
        say bitset('A', 5)                     >>> a
        say bitset('00101'b, 3)
        say c2b(bitset('0000101'b, 3))         >>> 00001101
```

 Compatibility issues:
   This function is an extension that is not defined in TRL2 . Although a
   function of this name might be included in other REXX implementations,
   there is no assurance that it will be.

Next: BITTST() | Prev: BITOR() | Contents: Bit-wise func.

1.31   ARexxGuide | Functions reference | Bit-wise (7 of 8) | BITTST

```
rv = BITTST(<string>, <bit>)
    rv is a  Boolean value
```

The result indicates the state of the specified <bit> in <string>.

```
    Examples:
        "say bittst('00001001'b, 3)            >>> 1 (True)
        "say bittst('00001001'b, 1)            >>> 0 (False)
```

 Compatibility issues:
   This function is an extension that is not defined in TRL2 . Although a
   function of this name might be included in other REXX implementations,

there is no assurance that it will be.

1.32   ARexxGuide | Functions reference | Bit-wise (8 of 8) | BITXOR

```
rv = BITXOR(<string1>,<string2>,[<padchar>])
    rv is a  string
```

The result is equal to the length of longer of the two supplied strings
which are logically (exclusively) OR'ed together bit by bit. If a pad
character is supplied, then the shorter string is filled out with that
character until it is the same length as the other string.

The default <padchar> is the null character.

```
   Examples:
      say c2b(bitxor('00001101'b, '01000101'b)) >>> 01001000
      say    bitxor('00001101'b, '01000101'b)  >>> H
      say c2b(bitxor('A', 'J'))                 >>> 00001011
```

 Compatibility issues:
   This function is an extension that is not defined in TRL2 . Although a
   function of this name might be included in other REXX implementations,
   there is no assurance that it will be.