2.3.4.8 ARCTAN(X)

Returns the angle, in radians, whose tangent is equal to the number X. The result is of type real.

2.3.4.9 EXP(X)

Returns the value e^X where $e = 2.71828$. The result is always of type real.

2.3.4.10 LN(X)

Returns the natural logarithm (i.e. to the base e) of X. The result is of type real. If $X <= 0$ then a 'Maths Call Error' will be generated.

2.3.5 Further Predefined Procedures:

2.3.5.1 NEW(p)

The procedure NEW(p) allocates space for a dynamic variable. The variable p is a pointer variable and after NEW(p) has been executed it contains the address of the newly allocated dynamic variable. The type of the dynamic variable is the same as the type of the pointer variable p and thus can be of any type.

To access the dynamic variable p^ is used - see appendix 4 for an example of the use of pointers to reference dynamic variables.

To re-allocate space used for dynamic variables use the procedures MARK and RELEASE (see below).

2.3.5.2 MARK(v1)

This procedure saves the state of the dynamic variable heap to be saved in the pointer variable v1. The state of the heap may be restored to that when the procedure MARK was executed by using the procedure RELEASE (see below).

The type of variable to which v1 points is irrelevant, since v1 should only be used with MARK and RELEASE never NEW.

For an example program using MARK and RELEASE see Appendix 4.

2.3.5.3. RELEASE(v1)