



Tech Info Library

Pascal: Converting strings to numeric variables (1 of 2)

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Security: Everyone

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Apple Pascal doesn't allow you to edit integer or real variable inputs. If the wrong data is entered by mistake, the program will be stuck with that data; worse yet, the system may crash.

The STRINGSTUF intrinsic unit is designed to avoid this problem. All data is entered in the form of strings, then converted to the appropriate data format by the unit. This allows you to edit the input data while it is still in string form. STRINGSTUF is located on the no-longer distributed Apple Graphics software package for the Apple II. If you're unable to locate a copy of this software, refer to the article that contains the STRINGSTUF code and instructions on its use: Apple Orchard, Vol. 1, #3, p. 59. The article is by Jo and Frank Kellner.

The STRINGSTUF unit and accompanying demo program are designed to run in versions of Pascal released later than version 1.0. Long integers are not supported in STRINGSTUF.

Locate STRINGSTUF in any unused segment number between 17 and 31. Install the unit in SYSTEM.LIBRARY, following the instructions in the Pascal Operating System Reference Manual on pp. 186-193.

```
(*S+*)
(*$LPprinter:*) (* Get a compile listing..optional *)
```

```
Unit STRINGSTUF;  intrinsic code 26;
```

```
Interface
```

```
  Type String255=String[255];
```

```
  Function STRFP (Var STR:String255;
                  Var FP:real): boolean;
```

```
  Function Strint (Var STR:String255;
                  Var INT:integer): boolean;
```

```
Implementation
```

```

Function STRFP; (* String to Real *)

CONST MaxReal=1.70E37; (* Max/10 *)
      MinReal=1.2E-37; (* Min/10 *)

VAR DEC,DEX,EDP,INX,LEN: integer;
    DP,EX,IM,MN,MX,SN: boolean;
    CH: CHAR;
    Numeric,Exponent,Modifier: Set Of CHAR;

Procedure Terminate;
Var I: integer;
Begin
    If MX Then DEX:=-DEX;
    EDP:=EDP+DEX-DEC;
    If EDP<0
    Then For I:=1 To -EDP DO
        If FP>=MinReal Then FP:=FP/10.0
        Else FP:=0 (* Underflow => 0 *)
    Else For I:=1 To EDP Do
        If FP<=MaxReal Then FP:=FP*10.0
        Else exit (STRFP); (* Overflow *)
    If MN Then FP:=-FP;
    STRFP:=True;
    exit (STRFP) (* Successful conversion *)
End;

Procedure Search;
Begin
    While INX<=LEN Do
        IF STR[INX] in Numeric
        Then Begin
(*$R-*)
            While (INX>1) and
                (STR[INX-1] in Exponent+Modifier)
(*$R+*)
                Do INX:=INX-1;
            Exit(Search) (* Found start of number *)
        End
        Else INX:=INX+1;
    Exit (STRFP) (* Non-numeric string *)
End;

```

Apple Tech Notes

Tech Info Library Article Number:681