



Tech Info Library

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

Revised: 3/4/85
Security: Everyone

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

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```
Begin (*STRFP*)
  Numeric:=['0'..'9'];
  Exponent:=['E','e'];
  Modifier:=['+', '-', '.', ','];
  DP:=False; EX:=False; IM:=True;
  MN:=False; MX:=False; SN:=False;
  DEC:=0; DEX:=0; EDP:=0; INX:=1;
  LEN:=Length(STR); FP:=0;
  STRFP:=False;
  Search; (* Find start of number *)
  While INX<=LEN Do Begin
    CH:=STR[INX];
    If CH in Numeric+Exponent+Modifier
      Then Begin
        If CH in Numeric
          Then If EX
            Then Begin
              If DEX<1000 Then (* Exponent *)
                DEX:=DEX*10+ORD(CH)-ORD('0');
              SN:=True;
            End;
          Else Begin
            If FP<1.0E8
              Then (* Mantissa *)
                FP:=FP*10+ORD(CH)-ORD('0');
            Else EDP:=EDP+1;
            If DP Then
              (* Digits to right of DP *)
              DEC:=DEC+1; IM:=False;
            SN:=True;
          End;
        Else Case CH of
          '+': If SN Then
            (* Duplicate '+' sign *)
            Terminate;
        End;
      End;
    INX:=INX+1;
  End;
```

```

        Else SN:=True
    '-': If SN Then
        (* Duplicate '-' sign *)
        Terminate
    Else Begin
        If EX Then MX:=True
        Else MN:=True;
        SN:=True
    End;
    '.': If DP of EX Then
        (* Duplicate '.' *)
        Terminate
        Else DP:=True;
    'E','e': If EX Then Terminate
        (* Duplicate 'E' *)
    Else Begin
        If IM Then
            (* Implied mantissa *)
            FP:=1.0;
            EX:=True;
            SN:=False
        End;
    End; (*Case*)
    INX:=INX+1
End
Else Terminate (* End of number *)
END;
Terminate (* End of string *)
End;

Function Strint; (* String to Integer *)

Var FP: real;

Begin
    Strint:=STRFP (STR,FP); (* First convert to real *)
    If ABS(FP)<=MasInt
    Then INT:=ROUND(FP) (* then round to integer *)
    Else Begin
        String:=False; (* Integer out of range *)
        INT:=0
    End
End;

Begin (* Unit Initialization *)
End.
```

This sample program illustrates the use of STRINGSTUF. Use the compiler \$V- option to override the normal string length checking.

```
Program Stringtest;
```

```
Uses STRINGSTUF; (* tests STRINGSTUF library unit *)
```

```
Var Input,STR: string;
    INT: integer;
    FP: real;

Begin
  Page (output);
  Writeln ('STRINGSTUF String => Numeric Conversion:');
  Repeat
    Writeln;
    Write ('String : ');
    Readln (input);
    (*$V-*)
    If STRFP (input,FP) Then
      Begin
        Writelnn ('  real: ',FP);
        If Strint (input,INT)
          Then Writeln ('integer: ',INT)
          Else Writeln('integer:  Out of range.')
        End
      Else Writeln('No numeric value in string.');
```

(*\$V+*)

```
    Until input=''
  End.
```

Apple Tech Notes

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