Generating Normal Pseudo-random Numbers

Box-Muller Method:
How to simulate two independent Normal random variables with mean $\mu$ and variance $\sigma^2$?
Generating $U, V$ independent $UNIF(0, 1)$ random values.
Then
\[
W = \cos(2\pi U)\sqrt{-2\ln(V)} \quad \text{and} \quad X = \sin(2\pi U)\sqrt{-2\ln(V)}
\]
are such that $W$ and $X$ are independent Normal$(0, 1)$ values.
To get $Y$ and $Z$ independent $N(\mu, \sigma^2)$ calculate
\[
Y = \mu + \sigma W \quad \text{and} \quad Z = \mu + \sigma X
\]
The following Pascal code implements the Box-Muller Method.

FUNCTION Random2 : Real;
{ This function checks if the random number we take the natural log of is very small. If so, then we set it equal to something small. }
VAR
   x : Real;
BEGIN
   x := Random;
   IF x <= 0.0001 THEN
      Random2 := 0.0001
   ELSE
      Random2 := x;
END;

PROCEDURE Normal(VAR W, X : REAL);
VAR
   T1, T2 : REAL;
BEGIN
   T1 := 2*Pi*Random;
   T2 := sqrt(-2.0*ln(Random2));
   W := cos(T1)*T2; { Note W and X are independent }
   X := sin(T1)*T2; { standard Normals. }
END;