

may want to simulate the random calling patterns which occur when users place telephone calls. The function RND is useful for this purpose. In Integer XYBASIC, RND returns a positive pseudorandom number between 0 and 32767. In Extended XYBASIC, RND (X) returns a pseudorandom number between 0 and X. Its value is "pseudo" random because it is generated by a mechanistic process; if you know the process you can predict the next number, which you cannot do with a truly random number. But successive values of RND have a random distribution, and repeat only after 65535 values.

The first example illustrates the use of RND in Integer XYBASIC.

```
NEW
OK
10 FOR I = 1 TO 10
20 PRINT RND;
30 NEXT I
RUN
5266 25294 28895 14655 12996 17448 28033 8137 6742 1634
OK
```

In Extended XYBASIC, the following program (like the example above, but with line 20 changed slightly) generates random values between 0 and 1.

```
NEW
OK
10 FOR I = 1 TO 10
20 PRINT RND (1);
30 NEXT I
RUN
.160721 .771912 .881821 .447235 .396622 .532471 .855515
.248322 .205765 .049866
OK
```

As a convenience to users familiar with other versions of BASIC, Extended XYBASIC treats RND (0) as a special case and returns a value between 0 and 1 (rather than always returning 0).

The next sample program gives a simple game which uses RND to generate a pseudorandom value. In Extended XYBASIC RND (10) generates a value between 0 and 10, so INT (RND (10)) is between 0 and 9 and INT (RND (10)) + 1 is between 1 and 10.

```
NEW
OK
10 I = INT (RND (10)) + 1 'GET RANDOM VALUE BETWEEN 1 AND 10
20 INPUT "YOUR GUESS (1 - 10)" J
30 IF I = J THEN 70
40 IF I < J THEN PRINT "TOO BIG"
50 IF I > J THEN PRINT "TOO SMALL"
60 GOTO 20
70 PRINT "YOU GUESSED IT!"
80 INPUT "WANT TO PLAY AGAIN (0 OR 1)" J
90 IF J = 1 THEN 10
```