Chapter 9 Projects

2. Primary Colors

Write an application that has nine Ball sprites each with a radius of 10: three red, three blue, and three yellow.

Have the Balls bounce around a 300 x 300 pixel Canvas. (Hint: Use the EdgeReached event and the Bounce method, and set your Interval, Speed and Direction appropriately.)

Use a Clock Timer and collision detection to change the sprites to their mixed color if they collide.

- Blue and Yellow = Green,
- Red and Yellow = Orange,
- Blue and Red = Pink and so forth.

Once a ball has collided and changed color, have it drop to the bottom of the Canvas. If a sprite collides with a ball that is already mixed, take no action.



```
when [ButtonReset = ].Click
  when BallBlue3 - .CollidedWith
                                      3 Times
                                                               do cal BaiRed2 .MoveTo
   other
                                                                                   x | random integer from 1 to 310
  do ② if get other = ■ BallRed •
                                                                                  y random integer from 1 to 300
                                                                  set (BaliRed2 - . PaintColor - to |
      then set BallBlue3 . PaintColor to
                                                                  set (BallRed2 - ). (Speed - to (5)
             set BallRed . PaintColor to (
                                                                  call (BallBlue3 - MoveTo
             set BallBlue3 . Speed to 0
                                                                                   x random integer from 1 to 200
             set BallRed . Speed to 0
                                                                                  y random integer from ( ) to ( SIII)
             set BallBlue3 . Y to 300
                                                                  set (Baliblues . PaintColor to |
                                                                  set (BallBlue3 . Speed . to (5)
             set BallRed . X to (300)
                                                                  cal BalBluet .MoveTo
             set BallRed ▼ . Y ▼ to ( 300)
                                                                                   x random integer from 1 to 300
             set BallBlue3 . X to 300
                                                                                  y random integer from 1 10 to 1 (800)
                                                                  set (BallBluet . PaintColor to |
       get other = = * BallRed2 *
                                                                  set (BallBluet ). (Speed ) to (5)
                                                                   call (Balified ... MoveTo
       then set BallBlue3 . PaintColor to
                                                                                  x random integer from ( ) to ( (300)
             set BallRed2 . PaintColor to (
                                                                                 y random integer from ( 1) to ( 201)
             set BallBlue3 . Speed to 0
                                                                  call (BalRed3 ... MoveTo
             set BallRed2 . Speed to 0
                                                                                      random integer from ( 1) to ( 300)
             set BallBlue3 . X to
                                         300
                                                                                  y random integer from ( ) to ( (811)
             set BallBlue3 . Y to
                                         300
                                                                  set Balified3 . PaintColor to
                                                                  set (BBIIBIUBNIE) . (Speed) to ((5)
             set BallRed2 . X . to [
                                         300
                                                                  set (BaliRed - ) . (PaintColor - ) to (
             set BallRed2 . Y v to 300
                                                                  set (BaliRed ). (Speed ) to (5)
                                                                  call (Balyelow2) .MoveTo
       get other = = * BallRed3 *
                                                                                    x random integer from ( ) to ( )
                                                                                    y random integer from 1 to 300
      then
             set BallBlue3 . PaintColor to
                                                                  set (BallYellow237). (PaintColors) to (
             set BallRed3 . PaintColor . to (
                                                                  set (BallYellow2 - ). Speed - to | 5
             set BallBlue3 . Speed to 0
                                                                   x random integer from 1 1 to 1 (300)
             set BallRed3 . Speed to 0
             set BallBlue3 . X to I
                                         300
                                                                                    y random integer from to 300
                                                                  set BallYellow1 . PaintColor to (
             set BallBlue3 . Y to
                                         300
                                                                  set (BallYellow1 - ) . Speed - to | 5
             set BallRed3 . X to 1
                                         300
 (X) 0
                                                                  call (BEIYEIDWS .MoveTo
             set BallRed3 . Y to |
                                         300
                                                                                    X random integer from ( 1) to ( 200)
arnings
                                                                                    y random integer from ( ) to ( 300)
                                                                  set (BallYellow3 . PaintColor to (
                                                                  set (BallYellow3 - ). (Speed - to | 5
                                                                  call (BallBlue2 - MoveTo
    when BallBlue1 .CollidedWi...
                                                                                   x random integer from 1 to 1800
                                                                                  Y random integer from | 10 to | 300
    when BallBlue2 .CollidedWi..
                                                                  set (BallBluet . PaintColor to )
                                                                  set (Ballbluet . Speed to (5)
    when BallBlue3 .CollidedWi...
                                                               when BallBlue1 .EdgeReached
                                                                                                       9 Times
                                                                 edge
                                                                   call BallBlue1 .Bounce
                                                                                         edge
                                                                                                  get edge *
```

```
when BallYellow1 .CollidedWith
                                                           3 Times
  if get other = BallRed =
   then set BallYellow1 . PaintColor to
         set BallRed . PaintColor to
         set BallYellow1 . Speed to 0
                                              when BallYellow1 .Collided
         set BallRed ▼ . Speed ▼ to 0
         set BallYellow1 . X to
                                              when BallYellow2 .Collided..
         set BallYellow1 • . Y • to 300
         set BallRed . X to 300
                                             when BallYellow3 .Collided...
         set BallRed • . Y • to 300
   if get other = BallRed2 •
         set BallYellow1 . PaintColor to (
         set BallRed2 . PaintColor to
         set BallYellow1 ▼ . Speed ▼ to □0
         set BallRed2 ▼ . Speed ▼ to ( 0
         set BallYellow1 • . X • to 300
set BallYellow1 • . Y • to 300
         set BallRed2 ▼ . X ▼ to 300
         set BallRed2 . Y to 300
   if 📋
             get other • = • BallRed3 •
         set BallYellow1 . PaintColor to
         set BallRed3 ▼ . PaintColor ▼ to
         set BallYellow1 ▼ . Speed ▼ to ( 0
         set BallRed3 ▼ . Speed ▼ to ( 0
         set BallYellow1 . X . to 300
         set BallYellow1 . Y . to 300
         set BallRed3 . X to 300
         set BallRed3 · Y · to 300
   if get other = BallBlue1
         set BallYellow1 - PaintColor - to
         set BallBlue1 . PaintColor to
         set BallYellow1 . Speed to 0
         set BallBlue1 . Speed to 0
         set BallYellow1 . X . to 300
         set BallYellow1 · Y · to 300
         set BallBlue1 - . X - to ( 300)
         set BallBlue1 . Y to 2
    if get other = BallBlue2
   then set BallYellow1 . PaintColor to
         set BallBlue2 . PaintColor to
         set BallYellow1 . Speed to 0
         set BallBlue2 . Speed to 0
         set BallYellow1 • . X • to 300
         set BallYellow1 . Y to 300
         set BallBlue2 v . X v to 300
         set BallBlue2 . Y v to
    if get other = BallBlue3
    then set BallYellow1 - . PaintColor - to
         set BallBlue3 . PaintColor to
         set BallYellow1 . Speed to 0
         set BallBlue3 . Speed to 0
         set BallYellow1 • . (X • to (300)
         set BallYellow1 • . Y • to 300
set BallBlue3 • . X • to 300
set BallBlue3 • . X • to 300
         set BallBlue3 . Y v to
```