

```

run(args : String...): () = do
  needleLength = 20
  numRows = 10
  tableHeight = needleLength * numRows
  var hits : ℝ64 = 0.0
  var n : ℝ64 = 0.0

  println("Starting parallel Buffons")
  recordTime(6.0)
  for i ← 1 # 3000 do
     $\delta_X = \text{random}(2.0) - 1$ 
     $\delta_Y = \text{random}(2.0) - 1$ 
    rsq =  $\delta_X^2 + \delta_Y^2$ 
    if 0 < rsq < 1 then
      y1 = tableHeight * random(1.0)
      y2 = y1 + needleLength * ( $\delta_Y / \text{sqrt}(rsq)$ )
      (yL, yH) = (y1 MIN y2, y1 MAX y2)
      if ceiling(yL/needleLength) = floor(yH/needleLength) then
        atomic do hits += 1.0 end
      end
      atomic do n += 1.0 end
    end
  end
  probability = hits/n
   $\pi_{\text{est}} = 2.0 / \text{probability}$ 
  printTime(6.0)
  println("")
  print("estimated Pi = ")
  println( $\pi_{\text{est}}$ )
end
end

```