```
[chris@euclid MAP6264QueueingTheory]$ cd Dropbox/MSCS/MAP*
bash: cd: Dropbox/MSCS/MAP*: No such file or directory
[chris@euclid MAP6264QueueingTheory]$ pwd
/home/chris/Dropbox/MSCS/MAP6264QueueingTheory
[chris@euclid MAP6264QueueingTheory]$ basic
Chipmunk BASIC 367b5
>load "hw4.bas"
>list
100 dim c(50),a(1100)
107 s = 10
108 nstop = 1000000
110 input n
120 for d = 1 to nstop
130 in = 1
132 for i = 2 to n
134 if a(i) < a(in) then in = i
136 next i
137 ahat = 9.6/(n-9.6)
138 gamma = ahat/2.4
139 tt = (-1/gamma)*log(rnd(1))
140 clock = a(in)
145 a(in) = a(in)+tt
150 j = 0
160 j = j+1
170 if j = s+1 then k = k+1
180 if j = s+1 then 270
190 if clock < c(j) then 160
200 x = -2.4*log(rnd(1))
205 sx = sx+x
210 c(j) = clock+x
215 a(in) = a(in)+x
220 m = c(1)
230 for i = 2 to s
240 if c(i) < m then m = c(i)
250 next i
260 if m > clock then ab = ab+m-clock
270 next d
300 print "P10[",n,"]=",ab/clock," Pi(10)[",n,"]=",k/nstop," rho[",n,"]=",sx/clock/s
>run
? 10
P10[   10    ]=    0.665245      Pi(10)[     10    ]=    0      rho[  10    ]=    0.960039
>run
? 11
P10[   11    ]=    0.462226      Pi(10)[     11    ]=    0.255193      rho[  11    ]=    0.919644
>run
? 12
P10[   12    ]=    0.390867      Pi(10)[     12    ]=    0.258262      rho[  12    ]=    0.897443
>run
? 13
P10[   13    ]=    0.351429      Pi(10)[     13    ]=    0.252152      rho[  13    ]=    0.882017
>run
? 14
P10[   14    ]=    0.327539      Pi(10)[     14    ]=    0.247211      rho[  14    ]=    0.870406
>run
? 15
P10[   15    ]=    0.310042      Pi(10)[     15    ]=    0.242733      rho[  15    ]=    0.861448
>run
? 25
P10[   25    ]=    0.246126      Pi(10)[     25    ]=    0.219033      rho[  25    ]=    0.819148
>run
? 50
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P10[  50   ]=   0.216338      Pi(10)[     50   ]=   0.205578      rho[  50   ]=   0.792762
>run
? 100
P10[  100   ]=   0.206306      Pi(10)[     100   ]=   0.201468      rho[  100   ]=   0.782424
>run
? 1000
P10[  1000   ]=   0.196836      Pi(10)[     1000   ]=   0.19712      rho[  1000   ]=   0.772567
>139 tt = -0.25*log(rnd(1))
>200 x=2.4
>list
100 dim c(50),a(1100)
107 s = 10
108 nstop = 1000000
110 input n
120 for d = 1 to nstop
130 in = 1
132 for i = 2 to n
134 if a(i) < a(in) then in = i
136 next i
137 ahat = 9.6/(n-9.6)
138 gamma = ahat/2.4
139 tt = -0.25*log(rnd(1))
140 clock = a(in)
145 a(in) = a(in)+tt
150 j = 0
160 j = j+1
170 if j = s+1 then k = k+1
180 if j = s+1 then 270
190 if clock < c(j) then 160
200 x = 2.4
205 sx = sx+x
210 c(j) = clock+x
215 a(in) = a(in)+x
220 m = c(1)
230 for i = 2 to s
240 if c(i) < m then m = c(i)
250 next i
260 if m > clock then ab = ab+m-clock
270 next d
300 print "P10[",n,"]=",ab/clock," Pi(10)[",n,"]=",k/nstop," rho[",n,"]=",sx/clock/s
>run
? 10
P10[  10   ]=   0.369924      Pi(10)[     10   ]=   0      rho[  10   ]=   0.905783
>run
? 11
P10[  11   ]=   0.579562      Pi(10)[     11   ]=   0.371042      rho[  11   ]=   0.943599
>run
? 12
P10[  12   ]=   0.692301      Pi(10)[     12   ]=   0.580522      rho[  12   ]=   0.96134
>run
? 13
P10[  13   ]=   0.759387      Pi(10)[     13   ]=   0.692768      rho[  13   ]=   0.970954
>run
? 14
P10[  14   ]=   0.803574      Pi(10)[     14   ]=   0.759103      rho[  14   ]=   0.976993
>run
? 15
P10[  15   ]=   0.833747      Pi(10)[     15   ]=   0.802771      rho[  15   ]=   0.980971
>run
? 25
P10[  25   ]=   0.935927      Pi(10)[     25   ]=   0.93122      rho[  25   ]=   0.993258
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>run
? 50
P10[    50     ]=     0.974851        Pi(10)[       50     ]=     0.973998        rho[   50     ]=     0.997565
>run
? 100
P10[    100    ]=     0.988659        Pi(10)[       100    ]=     0.98844         rho[   100    ]=     0.999042
>run
? 1000
P10[    1000   ]=     1.00821         Pi(10)[       1000   ]=     0.99894         rho[   1000   ]=     1.009113
>139 tt = 0.25
>200 x=-2.4*log(rnd(1))
>list
100 dim c(50),a(1100)
107 s = 10
108 nstop = 1000000
110 input n
120 for d = 1 to nstop
130 in = 1
132 for i = 2 to n
134 if a(i) < a(in) then in = i
136 next i
137 ahat = 9.6/(n-9.6)
138 gamma = ahat/2.4
139 tt = 0.25
140 clock = a(in)
145 a(in) = a(in)+tt
150 j = 0
160 j = j+1
170 if j = s+1 then k = k+1
180 if j = s+1 then 270
190 if clock < c(j) then 160
200 x = -2.4*log(rnd(1))
205 sx = sx+x
210 c(j) = clock+x
215 a(in) = a(in)+x
220 m = c(1)
230 for i = 2 to s
240 if c(i) < m then m = c(i)
250 next i
260 if m > clock then ab = ab+m-clock
270 next d
300 print "P10[",n,"]=",ab/clock," Pi(10)[",n,"]=",k/nstop," rho[",n,"]=",sx/clock/s
>run
? 10
P10[    10     ]=     0.37121         Pi(10)[       10     ]=     0       rho[   10     ]=     0.905668
>run
? 11
P10[    11     ]=     0.579867        Pi(10)[       11     ]=     0.370514        rho[   11     ]=     0.943546
>run
? 12
P10[    12     ]=     0.691422        Pi(10)[       12     ]=     0.57993         rho[   12     ]=     0.9612
>run
? 13
P10[    13     ]=     0.759393        Pi(10)[       13     ]=     0.692216        rho[   13     ]=     0.971057
>run
? 14
P10[    14     ]=     0.803039        Pi(10)[       14     ]=     0.759363        rho[   14     ]=     0.97697
>run
? 15
P10[    15     ]=     0.834312        Pi(10)[       15     ]=     0.804002        rho[   15     ]=     0.98109
>run
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? 25
P10[   25    ]=    0.935493       Pi(10)[      25    ]=    0.93134        rho[   25    ]=    0.993342
>run
? 50
P10[   50    ]=    0.973811       Pi(10)[      50    ]=    0.973967       rho[   50    ]=    0.997594
>run
? 100
P10[   100    ]=    0.985984       Pi(10)[      100    ]=    0.988584       rho[   100    ]=    0.999267
>run
? 1000
P10[   1000    ]=    0.964697       Pi(10)[      1000    ]=    0.998945       rho[   1000    ]=    1.003556
>
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