

Farhad Ramezanghorbani

Pseudo Code:

```

import random function
set step(s)      to 10000000
set total(t)     to 0
set circle(c)    to 0

while total number of points is less than number of step
    set x coordinate of point to a random number between -1 and 1
    set y coordinate of point to a random number between -1 and 1
    set r (length of the point vector) to (x square + y square)
    if r is less than 1
        add one to c (circle)
    add one to t (total)
set p number to division of # of points in circle by # of point in total multiplied by 4
print p number

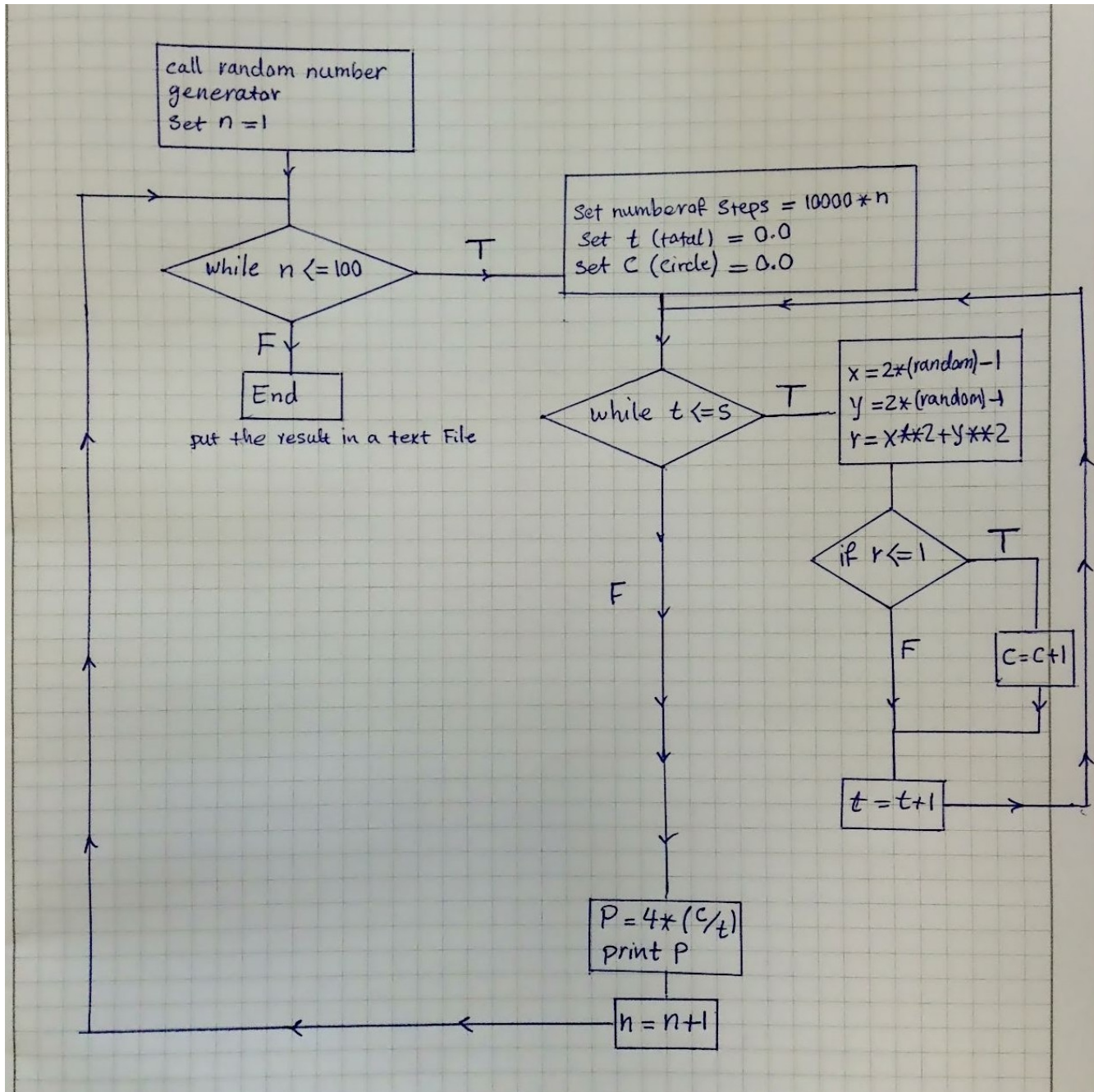
```

Real Code:

```
# Monte Carlo Integration
# Calculating pi number
# Farhad Ramezanghorbani
```

```
import random
n=1
result=open("result.txt","w")
while (n<=100):
    s=10000*n
    t=0.0
    c=0.0
    while (t<=s):
        x=2*(random.random())-1
        y=2*(random.random())-1
        r=(float(x**2)+float(y**2))
        if (r<=1):
            c+=1
        t+=1
    p=4*(c/t)
    output=str(p)+" "+str(s)+"\n"
    result.write(output)
    print p
    n+=1
```

Flowchart:



Results:

