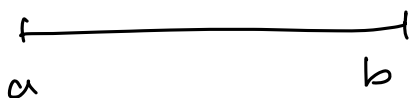
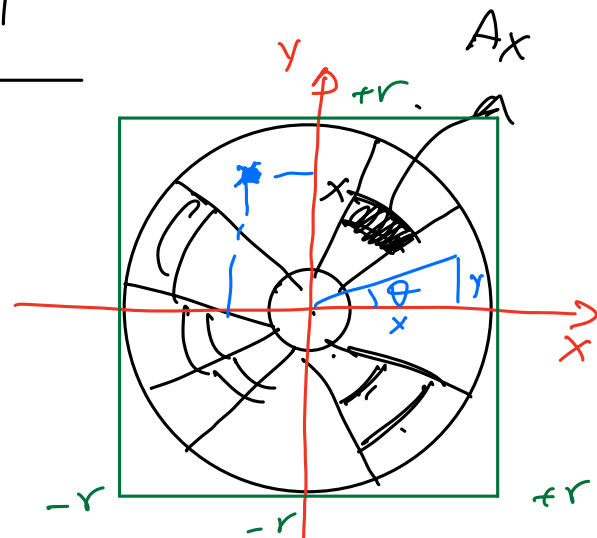


Freccette e calcolo di π

Prob di colpire x

$$d \frac{Ax}{\text{Area del cerchio}}$$



$$a + (b-a) * \text{brnd48} / \text{RAND-MAX}.$$

$\text{brnd48}()$: num. pseudo-casuale tra $[0, \text{RAND-MAX})$

Richiede inizializzazione seme generatore.

$\text{srand48}(\text{time}(0))$; 1 volta

double x, y, r;

inizio programma.

$$x = -r + 2r * \text{brnd48}() / \text{RAND-MAX};$$

$$y = -r + 2r * \text{brnd48}() / \text{RAND-MAX};$$

$$x^2 + y^2 \leq r^2$$

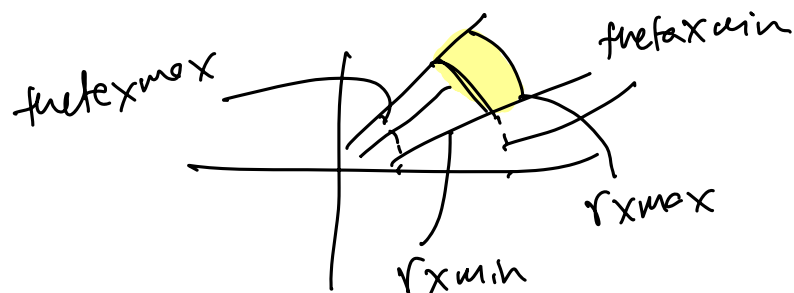
$$\text{if} (x*x + y*y \leq r*r) \{$$

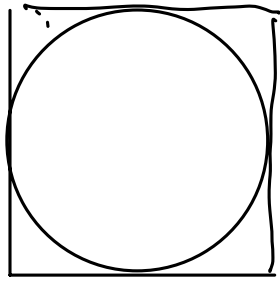
$$\text{raggio} = \text{sqrt}(x*x + y*y);$$

$$\text{thete} = \text{atan}(x/r);$$

$$\text{if} (r > r_{\text{min}} \ \&\& \ r \leq r_{\text{max}}) \{$$

$$\text{if} (\text{thete} \geq \text{thete}_{\text{min}} \ \&\& \ \text{thete} \leq \text{thete}_{\text{max}}) \{$$





$$A_{\text{cerchio}} = \pi r^2$$

$$A_{\text{quadrato}} = 4r^2$$

$$\pi = 4 * \frac{A_{\text{cerchio}}}{A_{\text{quadrato}}}$$

npoint = 10;

ncerchio = 0;

for(int i=0; i < npoint; i++) {

 x = -r + 2 * r * rand48() / RAND_MAX;

 y = -r + 2 * r * rand48() / RAND_MAX;

 if (x*x + y*y <= r*r) {

 ncerchio++;

 }

}

double pi = 4. * ncerchio / npoint;

printf("npoint: %d it time: %.10lf\n", npoint, pi);

π: 3.1415926536

10 3.20000 - -

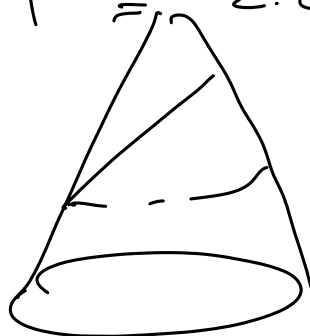
100 3.36

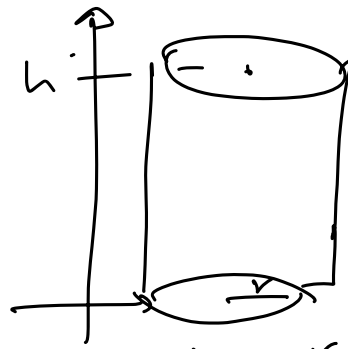
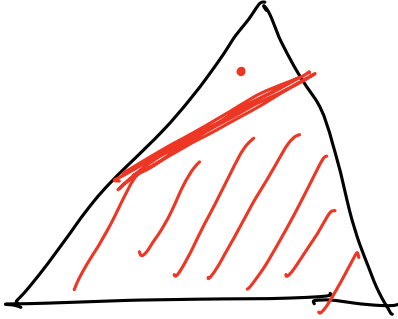
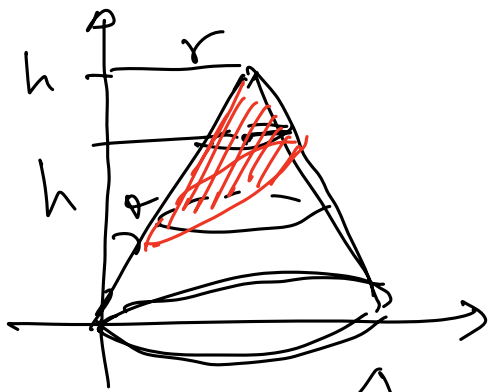
1000 3.168

10000 3.1448

10⁹ 3.1416190960

$$| \text{stime} - \pi | = 2.6 \times 10^{-5}$$





$$x = -r + 2r * \text{rand48}() \text{ ---}$$

$$z = h * \text{rand48}() \text{ ---}$$



2r lunghezza 2r

$$x \in [-r, r]$$

$$-r + 2r * \text{rand48}() / \text{RAND_MAX}$$

double r

$$\text{rand48}() / \text{RAND_MAX}$$



$$a + (b - a) * \text{rand48}() / \text{RAND_MAX}$$

≤

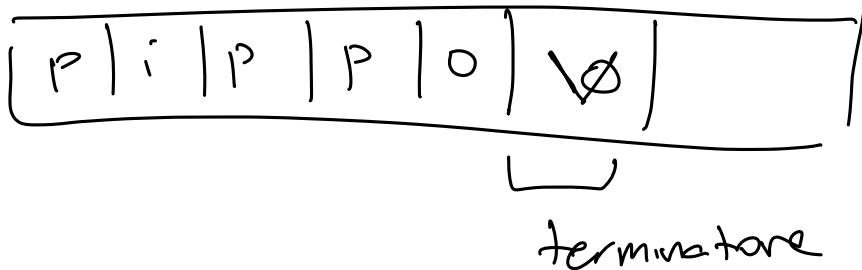
Stringhe in C

char nome[10];

nome = ~~"pippo"~~; Errore;

char nome[3] = "pippo";

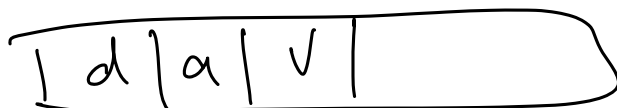
char ~~to~~ nome[10] = "pippo"



```
for(int i=0; i<10; i++) {  
    printf("i: %u", nome[i]);  
}
```

p
i
p
p
o
\0

char nome[3] = "davide";



printf("nome: i:s %u", nome);
 descrittore stringa

```
printf("inserisci nome: ");  
scanf("%s", nome);  
    non  
    non c'è &
```

```
sprintf(nome, "%s", "ele");
```