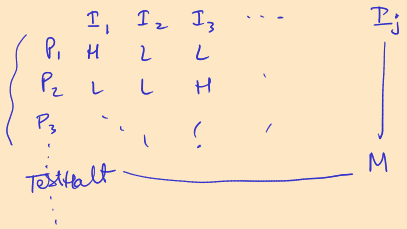
TestHalt(P, x) neither loops nor halts.

But, every program either loops or halts.

∴ TestHalt(P, x) is not a program.




TestHalt exists ⇒ set of all progs is unc. inf

∧ ¬set of all progs is unc. inf

⇓

¬TestHalt exists

| | P1 | P2 | P3 | ... |
|---|---|---|---|---|
| P1 | 0 | 1 | 0 | |
| P2 | 0 | 1 | 1 | |
| P3 | 1 | 0 | 0 | |
| ⋮ | | ⋮ | | |

$P_1(P_1) = 0 \quad P'(P_1) = 1$

$P_2(P_2) = 1 \quad P'(P_2) = 0$

1

0

1

$X_i \overset{iid}{\sim} (\mu, \sigma^2)$

$\bar{X} := \frac{\sum X_i}{n}$

$\frac{\bar{X}-\mu}{\sigma\sqrt{n}} \sim N(0,1)$

$\frac{\bar{X}-\mu}{\sqrt{n}} \sim N(0, \sigma^2)$

$X_i = \sum_{i=1}^{n} Y_i$

$E[X_i] = 0$

$\frac{X_i - E[X_i]}{\sqrt{n}} = \frac{X_i}{\sqrt{n}} \xrightarrow{d} N(0, \text{var}(Y_i))$

$= N(0,$

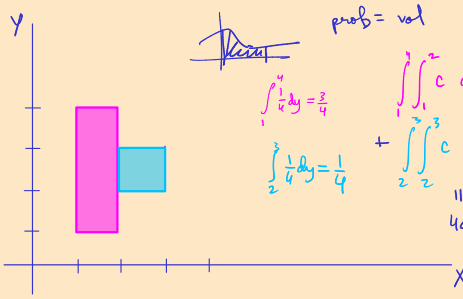
$\text{Var}(X_i) = ni^2$

$\text{var}\left(\frac{X_i}{\sqrt{n}}\right) = i^2$

$\frac{X_i}{\sqrt{n}} \to N(0, ni^2)$

Hello!

This is office hours 




prob = vol prob = area

$\int_1^4 \frac{1}{4} dy = \frac{3}{4}$

$\int_2^3 \frac{1}{4} dy = \frac{1}{4}$

$\int_1^2 \int_1^2 c \, dx \, dy + \int_2^3 \int_2^3 c \, dx \, dy$

$4c = 1 \Rightarrow c = \frac{1}{4}$

$\int\int f(x,y)\, dx\, dy = \int g(y)\, dy$

$g(y) = \int f(x,y)\, dx$

$x = 1.5$

$x = 1.5 \cap y = 1$

$x = 1.5 \cap y = 1.1$

$+$

$\{1 < x < 2, 1 < y < 4\} \cup \{2 < x < 3, 2 < y < 3\}$

$\int_{-\infty}^{\infty} f_{xy}(x,y)\, dy$

$x \in (1,2)$

$x \in (2,3)$