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What is Android Math Notebook

- Android Tablet App
- Electronic Notes
- Handwriting Recognition
- Math Mode

Poisson Theorem 3.11
IF Y is a r.v. w/ a Poisson distribution w/ parameter λ
 $\mu = E(Y) = \lambda + \sigma^2 = V(Y) = \lambda$.

Proof

$$E(Y) = \sum_{y=0}^{\infty} y p(y) = \sum_{y=0}^{\infty} y \cdot \frac{\lambda^y e^{-\lambda}}{y!}$$

Since $y=0 \rightarrow$ all 2

$$= \sum_{y=1}^{\infty} y \cdot \frac{\lambda^y e^{-\lambda}}{y!}$$
$$= \sum_{y=1}^{\infty} \frac{\lambda^y e^{-\lambda}}{(y-1)!}$$
$$= \lambda \sum_{y=1}^{\infty} \frac{\lambda^{y-1} e^{-\lambda}}{(y-1)!}$$

let $z = y-1$
 $y = z+1$

$$= \lambda \sum_{z=0}^{\infty} \frac{\lambda^z e^{-\lambda}}{z!}$$
$$= \lambda \cdot 1 = \lambda$$

$V(Y) = \lambda \rightarrow \sigma^2 = E(Y^2) - \mu^2$

$$E(Y(Y-1)) = \sum_{y=0}^{\infty} Y(Y-1) \frac{\lambda^y e^{-\lambda}}{y!}$$
$$= \sum_{y=2}^{\infty} \lambda^y e^{-\lambda}$$

$E(Y(Y-1)) = E(Y^2) - E(Y)$

Ported LipiTK

- Now Compiles on Android NDK
- Compiles as a Separate Shared Library
- Uses CrystaX NDK
(<http://www.crystax.net/en/android/ndk>)
 - Reimplementation of stdlib for Android



Recognition Implementation

- Implemented JNI layer
- Recognition “Works”
- Very Slow
- Wrong Most of the time

Other New Features

- Implemented Undo/Redo
 - Uses the “Command Design Pattern”
- Application Data Bundled
 - Rotating Screen Doesn't Erase

Native Debugging

- Debugging C/C++ from Eclipse
- Difficult to set up
- Sequoyah plugin
- GDB connects over tcp

DEMO!

Thanks!

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 - Moorthy
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 - RCOS members

Questions?