Blockchain Lectures Notes (BLN) - README.md

The Second Cohort Of The Plutus Pioneer Programme

BLN: Authors Note

I have made the decision to begin making notes and documenting all lectures and exercises found within the Plutus Pioneer Program (cohort two). The writing style will be two-fold: technical, but creative. This is for numerous reasons. Firstly, writing does aid the cognitive ability to solve problems [1], Plutus is a new platform, Plutus-core is a new language, Haskell is somewhat unique and understanding aspects of how this whole system fits together requires an element of creative thinking and problem solving. Similarly, these technologies [1]. are novel in nature, as such, it may be required to do some creative writing in order to explore new potential ideas.

I've been using distributed ledgers and blockchain consensus algorithms for over ten years. I remember buying BTC at $3 and seeing it hit $7 was mind blowing for me (at the time). It's a shame I never held on to many, but I just look back and laugh. Why? Because it's not about money, although most people would disagree (this is one of the reasons why I feel somewhat at home within the Cardano community). It's about technology and ultimately: changing the world. It's a strange thought: we are individuals, we have choices, and if we decide to do so, we can make a real difference here. If there is anything worth pursuing, it's making a difference. This is why I decided to devote as much time as possible to the difficult task of participating within the Plutus Pioneer Program and brushing up on Haskell.

I would like to express my gratitude to IOHK for constructing this program and accepting me as a candidate. Furthermore, I would like to thank my family for their continual support in my efforts to pursue a career path which isn't thought to be conventional.

I believe I can speak for the entire community when I extend my sincerest thanks to the world class engineers and scientists who have contributed to building Cardano as of current. Charles, you will are and will continue to be an inspiration to us all and to the world. I hope we can all collectively strive to make positive societal change.

BLN: Preface

BLN: Foreword

To any and all IOHK employees: feel free to contribute by adding a foreword via a pull request.

BLN: Formatting

As these are technical notes, the format for each set of lecture notes will be written to a pseudo-technical specification. This means each set of notes should follow a template, making it easier for readers to break down and understand. Each set of notes will be presented in accordance with the following schema:

- Introductory Lecture Information
- Incremental Sections (1. → N.)
- Subsections (1.1 → N.X)
- Possible *Coffee Time* Sections — Thought Experiments, or Exercises (These Will Be Italicised) and will be specified as 'COFFEE TIME!'
- End Of Section Notes — Optional, Only If Required
- Exercises and Associated Comments
- Questions and Comments on Possible Problems (Things I May Be Uncertain Of)
- Lecture Summary

I will be doing my best to keep to the above schema for each set of notes, but this isn't a publishable book or formal technical documentation, so expect a degree of variance in style.

Note: both footnotes and references will be used within this document set, which may seem confusing at times. However, please be aware that footnotes are formatted as enumerated superscript values, whereas footnotes are enumerated bracketed values.

Quotes: You will see various quotes throughout the text, this is simply how I like to write.

BLN: Content Within This Repo

See Table Of Contents

In Progress

BLN: Intended Audience

These notes are for anybody and everybody (somewhat vague, I know), but the audience could range from those who are current Plutus Pioneers, individuals who are just following the programme, developers from other communities, or even legislators (however, I highly

doubt they would be reading my notes / documentation on Cardano). But ultimately, we are all here for the same reason, we believe in what we're building and the best way to approach adoption is to allow everybody to see what you're doing, at least, that would be my intuition.

But, to reduce the scope a little bit and be somewhat more realistic, the intended audience is really for those who are looking to develop on Cardano.

BLN: Why These Notes May Be Helpful

In Progress

BLN: Contributing

Anyone is free to contribute via a pull request.

BLN: Table of Contents

- [Lecture One](): BTC: UTxO and Cardanos' (E)UTxO Model, Local Plutus Playground, Compiling Smart Contracts
- [Lecture Two](): (E)UTxO Catch Up, Redeemers, Context, Datum, Data Type: Data, More Smart Contracts
- [Lecture Three](): Title Work In Progress
- Lecture Four: *Catching Up*

In Progress

BLN: Summary

In Progress

BLN: StackExchange (Cardano) Answers:

1. [What exactly is a redeemer?]()

BLN: References

In Progress

[1] Kellogg, R.T., 1999. The psychology of writing. Oxford University Press.

- https://iohk.io/en/blog/posts/2021/02/02/plutus-tx-compiling-haskell-into-plutus-core/

BLN: Footnotes

1. The technologies I am referencing are Distributed Ledgers and Blockchain Consensus Algorithms — 'cryptocurrencies'

BLN: Nomenclature

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BLN: Appendix

In Progress

BLN: TODO

In Progress

1. Tidy up repo.
2. Update HTML files.
3. Update PDF files.
4. Scan and upload annotated papers from IOHK.
5. Catch up to Lecture four ASAP.