Ground Truth

- 1. question: "What is the price of bitcoin?" answer: "Bitcoin price today is #currentBitcoinPrice"
- 2. question: "What is cryptocurrency?" answer: "cryptocurrency is decentrally stored and maintained in a publicly available distributed ledger called the blockchain"
- 3. question: "When was bitcoin invented?" answer: "The project was released in 2009"
- 4. question: "Who is Satoshi Nakamoto?" answer: "Satoshi Nakamoto is the name used by the presumed pseudonymous[1][2][3][4] person or persons who developed bitcoin, authored the bitcoin white paper, and created and deployed bitcoin's original reference implementation"
- 5. question: "What was the first cryptocurrency?" answer: "Bitcoin"
- 6. question: "What is the supply of bitcoin?" answer: "circulating supply of #circulating supply BTC coins"
- 7. question: "What is proof of stake?" answer: "Proof of stake (PoS) protocols are a class of consensus mechanisms for blockchains that work by selecting validators in proportion to their quantity of holdings in the associated cryptocurrency"
- 8. question: "What is the abbreviation of bitcoin?" answer: "BTC"
- 9. question: "What is proof of work?" answer: "Proof of work, another commonly used consensus mechanism, uses a validation of computational prowess to verify transactions, requiring a potential attacker to acquire a large fraction of the computational power of the validator network"
- 10. question: "Who invented blockchain?" answer: "Satoshi Nakamoto"

- 11. question: "How does blockchain work?" answer: "The work of validating transactions and adding them to the blockchain is done by miners, powerful computers that make up and connect to the network"
- 12. question: "How did crypto-mining affect the gpu prices?" answer: "An increase in cryptocurrency mining increased the demand for graphics cards (GPU) in 2017"
- 13. question: "What is a crypto wallet?" answer: "A cryptocurrency wallet is a device,[1] physical medium,[2] program or a service which stores the public and/or private keys[3] for cryptocurrency transactions"
- 14. question: "What is the use of crypto wallets?" answer: "a crypto wallet encrypts and/or signs information"
- 15. question: "What is decentralization?" answer: "Decentralization or decentralisation is the process by which the activities of an organization, particularly those regarding planning and decision making, are distributed or delegated away from a central, authoritative location or group"
- 16. question: "Which cryptocurrencies use smart contracts?" answer: "Ethereum"
- 17. question: "Are there any issues with smart contracts?" answer: "Issues in Ethereum smart contracts, in particular, include ambiguities and easy-but-insecure constructs in its contract language Solidity, compiler bugs, Ethereum Virtual Machine bugs, attacks on the blockchain network, the immutability of bugs and that there is no central source documenting known vulnerabilities, attacks and problematic constructs"
- 18. question: "When was Tether launched?" answer: "July 2014"
- 19. question: "What use has ethereum?" answer: "Ethereum has pioneered the concept of a blockchain smart contract platform"

- 20. question: "How do blockchains use decentralization?" answer: "Blockchain based networks are designed to support decentralization by way of a cryptographic distributed triple-entry accounting ledger, typically with "layers" where each layer is defined by an interoperable open protocol on top of which network participants can transact and build products or services without requiring permission from central authorities"
- 21. question: "tether abbreviation?" answer: "Tether (USDT)"
- 22. question: "Who founded Tether?" answer: "Brock Pierce, Reeve Collins and Craig Sellars"
- 23. question: "What is the price of Uniswap?" answer: "Uniswap price today is #currentUniswapPrice"
- 24. question: "Where can you use DOGE?" answer: "the top exchanges for trading in Dogecoin are currently Binance, OKEx, FTX, CoinTiger, and Huobi Global. You can find others listed on our crypto exchanges page"
- 25. question: "When was binance founded?" answer: "It was founded in 2017"
- 26. question: "Is Uniswap limited?" answer: "The total supply of Uniswap's governance token, UNI, is 1 billion units"
- 27. question: "What is Stellar?" answer: "Stellar is an open-source, decentralized payment protocol that allows for fast, cross-border transactions between any pair of currencies"
- 28. question: "What are NFTs?" answer: "A non-fungible token (NFT) is a unit of data stored on a digital ledger, called a blockchain, that certifies a digital asset to be unique and therefore not interchangeable"
- 29. question: "What is a lumen?" answer: "The lumen is the native asset of Stellar."
- 30. question: "What are requirements for blockchain?"

answer: "A peer-to-peer network as well as consensus algorithms"

- 31. question: "Where can I buy Bitcoin?" answer: "the top exchanges for trading in Bitcoin are currently Binance, OKEx, CoinTiger, FTX, and Huobi Global"
- 32. question: "How does distributed ledger work?" answer: "The distributed ledger database is spread across several nodes (devices) on a peer-to-peer network, where each replicates and saves an identical copy of the ledger and updates itself independently."
- 33. question: "What is the current ranking of Uniswap?" answer: "Uniswaps ranking is #currentUniswapranking"
- 34. question: "Uniswap volume?" answer: "the volume of Uniswap is #currentUniswapVolume"
- 35. question: "What is crypto-mining?" answer: "Within a proof-of-work cryptocurrency system such as Bitcoin, the safety, integrity and balance of ledgers is maintained by a community of mutually distrustful parties referred to as miners: who use their computers to help validate and timestamp transactions, adding them to the ledger in accordance with a particular timestamping scheme"
- 36. question: "How is Ethereum different to Bitcoin?" answer: "One of the major differences between Bitcoin and Ethereum's economics is that the latter is not deflationary, i.e. its total supply is not limited. Ethereum's developers justify this by not wanting to have a "fixed security budget" for the network"
- 37. question: "What is the difference between Ethereum and Bitcoin?" answer: "One of the major differences between Bitcoin and Ethereum's economics is that the latter is not deflationary, i.e. its total supply is not limited. Ethereum's developers <u>justify</u> this by not wanting to have a "fixed security budget" for the network"
- 38. question: "What are the benefits of Monero?" answer: "biggest aims is achieving the greatest level of decentralization possible"
- 39. question: "what is the code/symbol of ethereum?" answer: "ETH"

- 40. question: "what is the daily trading volume of cardano?" answer: "24-hour trading volume of #currentCardanoTradingVolume"
- 41. question: "what is the market capitalisation of tether?" answer: "The market capitalisation of Tether is #currentMarketCapitalisation"
- 42. question: "what is the circulating supply of bitcoin?" answer: "circulating supply of #currentCirculatingSupplyBitcoin"
- 43. question: "what is the maximum supply of bitcoin?" answer: "max. supply of 21,000,000 BCH coins"
- 44. question: "what is the price change of bitcoin in the last 24h?" answer: "Bitcoin is #currentPriceCHang in the last 24 hours"
- 45. question: "what is the market dominance of bitcoin?" answer: "Dominance: BTC: #current market dominance(z.B. 41%)"
- 46. question: "what is the 24h change of ethereum?" answer: "Ethereum is #current24hChangeEthereum in the last 24 hours"
- 47. question: "what is bitcoins hashing algorithm?" answer: "SHA265"
- 48. question: "What is bitcoin?" answer: "Bitcoin (B) is a decentralized digital currency, without a central bank or single administrator, that can be sent from user to user on the peer-to-peer bitcoin network without the need for intermediaries"
- 49. question: "who created bitcoin?" answer: "Satoshi Nakamoto"
- 50. question: "what is a smart contract?" answer: "A smart contract is a computer program or a transaction protocol which is intended to automatically execute, control or document legally relevant events and actions according to the terms of a contract or an agreement."

- 51. question: "what is a bitcoin node?" answer: "a node is a computer that connects to a cryptocurrency network"
- 52. question: "what is bitcoin mining?" answer: "Bitcoin mining is the process of using computer hardware to do mathematical calculations for the Bitcoin network in order to confirm transactions. Miners collect transaction fees for the transactions they confirm and are awarded bitcoins for each block they verify. As part of bitcoin mining, mining "pools" are a network of miners that work together to mine a block, then split the block reward among the pool miners."
- 53. question: "What are the fees for sending ether?" answer: "The fee for sending ether is static (you can view the fee for sending ether by clicking "Send" and selecting Ether as the currency)"
- 54. question: "What is an ERC20 token?" answer: "An ERC20 token is a blockchain-based asset with similar functionality to bitcoin, ether, and bitcoin cash: it can hold value and be sent and received. The major difference between ERC20 tokens and other cryptocurrencies is that ERC20 tokens are created and hosted on the Ethereum blockchain, whereas bitcoin and bitcoin cash are the native currencies of their respective blockchains. ERC20 tokens are stored and sent using ethereum addresses and transactions, and use gas to cover transaction fees. ERC20 is an official protocol for proposing improvements to the Ethereum (ETH) network. ERC stands for Ethereum Request for Comment, and 20 is the proposal identifier."
- 55. question: "what cryptocurrencies does Microsoft accept?" answer: "Bitcoin"
- of the stellar addresses have a minimum balance requirement?" answer: "All Stellar addresses are required to keep a minimum balance of XLM at all times. The current minimum is 1 XLM, which is set by the Stellar network. The minimum balance requirement is in place in order to prevent people from overwhelming the network and to aid in prioritization."
- 57. question: "Why do Bitcoin Cash addresses look different from Bitcoin addresses?"

answer: "When Bitcoin Cash (BCH) was created, it shared the same address format as bitcoin. In an effort to alleviate any confusion for users of both digital currencies, BCH developers later proposed a new unique format for BCH addresses called CashAddr"

58. question: "What is the highest bitcoin price ever seen?"

answer: "#highestBitcoinPrice"

59. question: "Which currencies does coinmarketcap accept?" answer: "dollar, euro, ..."

- 60. question: "Why use cryptocurrency?" answer: "cryptocurrencies are known for its extreme security and anonymity to the highest level. Transactions made by this system cannot be reversed nor faked and compared to what your local bank are doing in its client charging high transaction fees. In cryptocurrency the fees are to the lowest level, making it reliable than the conventional currency in the marketplace. Its decentralized nature means they can be available to everyone, in which banks can only be available to those they permitted to open accounts."
- 61. question: "How many cryptocurrencies exist in the web?" answer: "There is no exact number of existing cryptocurrencies exist in the ecosystem, this is because the code of the cryptocurrency is an open source, this means that anyone has the chance to create their own version of cryptocurrency by just using the code. But as to this moment, the estimated cryptocurrencies in the marketplace is about more than 900, along with the data embedded on them, which can be seen on the list of registered coins."
- 62. question: "Which cryptocurrencies does expedia accept?" answer: "30 different ones, bitcoin,"
- 63. question: "What are the most common cryptocurrencies?" answer: "Bitcoin, Ethereum, Ripple, Litecoin"
- 64. question: "Why is bitcoin-mining environmentally unfriendly?" answer: "carbon emissions from Bitcoin mining in China where a majority of the proof-of-work algorithm that generates current economic value is computed have accelerated rapidly, are largely fueled by nonrenewable sources and would soon exceed total annual emissions of countries like Italy and Spain during 2016, interfering with international climate change mitigation commitments. [14][15]

Avalon ASIC-based mining machine
A rough overview of the process to mine bitcoins involves:[3]
New transactions are broadcast to all nodes"

65. question: "Why should I get involved in cryptocurrency?" answer: "In cryptocurrency networks, mining is a validation of transactions. For this effort, successful miners obtain new cryptocurrency as a reward"

- 66. question: "How can you swap one cryptocurrency to another?" answer: "Atomic swaps are a mechanism where one cryptocurrency can be exchanged directly for another cryptocurrency, without the need for a trusted third party such as an exchange"
- 67. question: "When is the right time to sell a cryptocurrency?" answer: "The best time to sell a cryptocurrency is when you get 25% increase from the original purchase of your token. If it goes down, the option is to hold and wait till it gets back to higher price. As mentioned cryptocurrency are extremely volatile, you can lose 95 percent of your asset anytime or earn 95 percent."
- 68. question: "Is Cyrptocurrency safe?" answer: "Darknet markets present challenges in regard to legality. Cryptocurrency used in dark markets are not clearly or legally classified in almost all parts of the world. In the U.S., bitcoins are labelled as "virtual assets"."
- 69. question: "What's the relationship between Bitcoin and blockchain?" answer: "The bitcoin network is a peer-to-peer payment network that operates on a cryptographic protocol. Users send and receive bitcoins, the units of currency, by broadcasting digitally signed messages to the network using bitcoin cryptocurrency wallet software. Transactions are recorded into a distributed, replicated public database known as the blockchain, with consensus achieved by a proof-of-work system called mining."
- 70. question: "Why has Bitcoin become so popular?" answer: "Like many new technologies or products, Bitcoin attracted adherents interested in innovation and the perceived absence of governmental control. Traders saw it as an alternative to traditional investments such as stocks, bonds, and cash, and trading momentum led to a rising, if highly volatile, price. All of this attracted media attention, which drove mainstream awareness and ultimately, increasing acceptance. Most recently, companies including PayPal have announced that they'll support or accept Bitcoin as a form of payment."
- 71. question: "Can Bitcoin be used against inflation?"
 answer: "Because Bitcoin is currently not tied to a basket of goods or services, its value as an inflation hedge is completely speculative and unpredictable.
 Throughout much of 2021, Bitcoin prices were either volatile or declining as inflation data ticked higher. Whether Bitcoin will prove to be an effective inflation hedge in the long run is yet to be determined"
- 72. question: "How are miners paid in the Ethereum network?" answer: "Miners are paid for their work validating transactions and adding blocks to the Ethereum blockchain in fractions of ether (ETH)."

- 73. question: "How do you back up your ether wallet?" answer: "You only need to back up your wallet once; all of your sub-wallets are backed up by a single 12-word recovery phrase"
- 74. question: "What are some risks of Bitcoin?" answer: "As the popularity of and demand for online currencies has increased since the inception of bitcoin in 2009,[108] so have concerns that such an unregulated person to person global economy that cryptocurrencies offer may become a threat to society"
- 75. question: "abbreviation ether?" answer: "ETH"
- 76. question: "Why is there a fee for using ethereum?" answer: "the small fee included in your transaction goes to the miners, who help power the flow of transactions on the Ethereum network."
- 77. question: "What are the concerns around cryptocurrencies?" answer: "As the popularity of and demand for online currencies has increased since the inception of bitcoin in 2009,[108] so have concerns that such an unregulated person to person global economy that cryptocurrencies offer may become a threat to society. Concerns abound that altcoins may become tools for anonymous web criminals"
- 78. question: "Can you withdraw currencies from your crypto-wallet?" answer: "The exchanges can send cryptocurrency to a user's personal cryptocurrency wallet. Some can convert digital currency balances into anonymous prepaid cards which can be used to withdraw funds from ATMs worldwide"
- 79. question: "Examples for cryptocurrency exchange platforms?" answer: "Etherdelta, IDEX and HADAX"
- 80. question: "How can I acquire cryptocurrency?" answer: "An actual bitcoin transaction from a web based cryptocurrency exchange to a hardware cryptocurrency wallet. A simple cryptocurrency wallet contains pairs of public and private cryptographic keys. The keys can be used to track ownership, receive or spend cryptocurrencies. [11] A public key allows others to make payments to the address derived from it, whereas a private key enables the spending of cryptocurrency from that address. [12]

The cryptocurrency itself is not in the wallet. In the case of bitcoin and cryptocurrencies derived from it, the cryptocurrency is decentrally stored and maintained in a publicly available distributed ledger called the blockchain"

- 81. question: "How do I store my cryptocurrencies?" answer: "In the case of bitcoin and cryptocurrencies derived from it, the cryptocurrency is decentrally stored and maintained in a publicly available distributed ledger called the blockchain"
- 82. question: "What is the maximal supply of the cardano currency?" answer: "max. supply of 45.000.000.000 ADA coins"
- 83. question: "Was blockchain used in the COVID-19 pandemic?" answer: "In response to the 2020 COVID-19 pandemic, The Wall Street Journal reported that Ernst & Young was working on a blockchain to help employers, governments, airlines and others keep track of people who have had antibody tests and could be immune to the virus."
- 84. question: "What is crypto?" answer: "binary data designed to work as a <u>medium of exchange</u> wherein individual coin ownership records are stored in a <u>ledger</u> existing in a form of a computerized <u>database</u> using <u>strong cryptography</u> to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership"
- 85. question: "How much money goes into blockchain?" answer: "In 2019, it was estimated that around \$2.9 billion were invested in blockchain technology, which represents an 89% increase from the year prior. Additionally, the International Data Corp has estimated that corporate investment into blockchain technology will reach \$12.4 billion"
- 86. question: "Are banks interested in using blockchain?" answer: "Banks preferably have a notable interest in utilizing Blockchain Technology because it is a great source to avoid fraudulent transactions"
- 87. question: "What is the history of digital currency?" answer: "In 1983, the American cryptographer David Chaum conceived an anonymous cryptographic electronic money called ecash. [7][8] Later, in 1995, he implemented it through Digicash,[9] an early form of cryptographic electronic payments which required user software in order to withdraw notes from a bank and designate specific encrypted keys before it can be sent to a recipient. This allowed the digital currency to be untraceable by the issuing bank, the government, or any third party.In 1983, the American cryptographer David Chaum conceived an anonymous cryptographic electronic money called

ecash. [7][8] Later, in 1995, he implemented it through Digicash,[9] an early form of cryptographic electronic payments which required user software in order to withdraw notes from a bank and designate specific encrypted keys before it can be sent to a recipient. This allowed the digital currency to be untraceable by the issuing bank, the government, or any third party."

- 88. question: "Can you use bitcoin and euro in one bank?" answer: "In December 2018, Bitwala launched Europe's first regulated blockchain banking solution that enables users to manage both their bitcoin and euro deposits in one place with the safety and convenience of a German bank account"
- 89. question: "What are alternative cryptocurrencies?" answer: "Tokens, cryptocurrencies, and other types of digital assets that are not bitcoin are collectively known as alternative cryptocurrencies"
- 90. question: "Is there a game based on Blockchain?" answer: "A blockchain game CryptoKitties"
- 91. question: "What are differences between Altcoins and Bitcoin?" answer: "Altcoins often have underlying differences with bitcoin. For example, Litecoin aims to process a block every 2.5 minutes, rather than bitcoin's 10 minutes, which allows Litecoin to confirm transactions faster than bitcoin."
- 92. question: "What are Crypto tokens?" answer: "(Units of) <u>fungible</u> tokens are sometimes referred to as crypto tokens (or cryptotokens). These terms are usually reserved for other fungible tokens than the main cryptocurrency of the blockchain, that is, usually, for fungible tokens issued within a smart contract running on top of a blockchain such as Ethereum"
- 93. question: "What means peer-to-peer regarding blockchain?" answer: "A peer-to-peer (P2P) network in which interconnected nodes ("peers") share resources amongst each other without the use of a centralized administrative system"
- 94. question: "What made P2P popular?" answer: "While P2P systems had previously been used in many application domains,[3] the architecture was popularized by the file sharing system Napster"
- 95. question: "What is a Node regarding Cryptocurrency?" answer: "a node is a computer that connects to a cryptocurrency network"

- 96. question: "Did the GPU price rise because of cryptocurrency?" answer: "An increase in cryptocurrency mining increased the demand for graphics cards (GPU) in 2017. (The computing power of GPUs makes them well-suited to generating hashes.) Popular favorites of cryptocurrency miners such as Nvidia's GTX 1060 and GTX 1070 graphics cards, as well as AMD's RX 570 and RX 580 GPUs, doubled or tripled in price or were out of stock"
- 97. question: "What is one of the most widely accepted cryptocurrencies?"

answer: "Bitcoin" answer: "Ether" answer: "Litecoin"

- 98. question: "Is cryptocurrency allowed in China?" answer: "On May 18, 2021, China banned financial institutions and payment companies from being able to provide cryptocurrency transaction related services. This led to a sharp fall in the price of the biggest proof of work cryptocurrencies. For instance, <u>Bitcoin</u> fell 31%, <u>Ethereum</u> fell 44%, <u>Binance Coin</u> fell 32% and <u>Dogecoin</u> fell 30%. Proof of work mining was the next focus, with regulators in popular mining regions citing the use of electricity generated from highly polluting sources such as coal to create Bitcoin and Ethereum"
- 99. question: "What benefits does decentralization have with efficiency?" answer: "Efficiency
 In business, decentralization leads to a management by results philosophy which focuses on definite objectives to be achieved by unit results.[40]
 Decentralization of government programs is said to increase efficiency and effectiveness due to reduction of congestion in communications, quicker reaction to unanticipated problems, improved ability to deliver services, improved information about local conditions, and more support from beneficiaries of programs.[41]"
- 100. question: "Is cryptocurrency legal?" answer: "The legal status of cryptocurrencies varies substantially from country to country and is still undefined or changing in many of them. At least one study has shown that broad generalizations about the use of bitcoin in illicit finance are significantly overstated and that blockchain analysis is an effective crime fighting and intelligence gathering tool"