

1. Sir Isaac Newton and Gottfried Wilhelm Leibniz were involved in a bitter
2. Both Newton and Leibniz are credited with being the ... of calculus.
3. Calculus was a ... that allowed for the solution of previously unsolvable problems.
4. The abacus was very important in ancient times because it allowed people to do ... quickly and accurately.
5. In conclusion, logarithmic tables were an important computing tool in the past, and their use helped ... complex calculations.
6. His machine was called the "calculating clock," and it could add and ... six-digit numbers.
7. The user would input the numbers into the machine by turning ... , and the machine would then perform the calculation and print the result on paper.
8. Match the first parts of the sentences with their second part:
9. Match Russian equivalent to English phrases:
10. Match translations to the English sentences:
11. Put the words and word combinations below in order to form a meaningful sentence:
12. Put the words and word combinations below in order to form a meaningful sentence:
13. Put the words and word combinations below in order to form a meaningful sentence:
14. Put the words and word combinations below in order to form a meaningful sentence:
15. Read a programmer's monologue below and answer the question.

Recently, I had the opportunity to get involved in an exciting project where I programmed an interactive tool with a user-friendly interface, replicating the functionality of a traditional arithmetic device. To accomplish this, I utilized a combination of JavaScript, HTML, and CSS to develop the foundation of the program. I wrote code for various functions and operators, such as addition, subtraction, multiplication, and division, enabling users to perform calculations easily. I wrote code to replicate the movement of beads along rods to represent numbers. By applying JavaScript's event listeners and DOM manipulation, I ensured a seamless user experience, allowing users to input numbers and interact with the virtual device. The CSS styling brought visual appeal to the interface, enhancing its usability and clarity. Overall, I'm thrilled with the outcome of this project and confident that the implemented code will provide users with an engaging and intuitive online

experience.

What online tool did the programmer develop?

16. Read the text below and fill in the gap in the summary of the text.

Here's a sample simplified code snippet in Python used when dealing with exponential growth of money supply. In real-world scenarios, factors like compounding periods and additional contributions or withdrawals would need to be considered for accurate calculations:

```
import math

initial_money = 1000 # Initial amount of money
interest_rate = 0.05 # Annual interest rate
years = 10 # Number of years

# Calculate the final money mass after the given number of years
final_money = initial_money * math.exp(interest_rate * years)

# Calculate the logarithm base 10 of the final money mass
log_money = math.log10(final_money)

# Print the results
print(f"Initial money: ${initial_money}")
print(f"Final money after {years} years: ${final_money:.2f}")
print(f"Logarithm base 10 of final money: {log_money:.2f}")
```

In summary, using the `math.log()` function, we calculate the logarithm ... 10 of the final money supply.

17. One of the most notable features of modern computer science is its ...

18. Which application of advanced modern computers in medicine helps improve the efficiency and accuracy of patient care?

19. What is an example of an implantable computer used in medicine?

20. These programs can be used for a wide range of purposes, such as word processing, gaming, and web

21. The ... of RAM a computer has can affect its performance.

22. It ... all the data that the computer needs to access in the future, such as the operating system, programs, and files.

23. The ... is like the nervous system of a computer.

24. Match the first halves of the sentences with their second halves a-d:

25. Match the words to make up collocations:

26. Match the English sentences with their Russian translations:

27. Put the words and word combinations below in order to form a meaningful sentence:

28. Put the words and word combinations below in order to form a meaningful sentence:

29. Put the words and word combinations below in order to form a meaningful sentence:

30. Put the words and word combinations below in order to form a meaningful sentence:

31. Put the words and word combinations below in order to form a meaningful sentence:

32. Read the dialogue between two game developers and answer the question below:

Dev1: Hey, we need to optimize our game.

Dev2: Totally! Let's make sure the game runs smoothly on computers with less of it.

Dev1: Yeah, let's start by reducing the size of our game files. We can compress textures and audio without losing quality.

Gotta fit within those limits!

Dev2: Good call. We should also manage it dynamically, so we use it efficiently.

Dev1: And we need to be careful not to use too much of it. We want our game to be lightweight and fast.

Dev2: Definitely. We can optimize our code and data structures. Efficiency is key.

Dev1: Lastly, let's give players options to adjust graphics settings. That way, they can find the right balance for their systems.

Dev2: Great idea. Customizable graphics will make sure everyone can play our game without lags or crashes.

Question: In this dialogue, what piece of hardware do the developers discuss optimizing their game for?

33. Read a dialogue between two crypto currency miners and answer a question on it:

Miner 1: Hey, I'm thinking of upgrading my rig for mining. Any thoughts on which model would be better for mining different coins?

Miner 2: Well, the CPU isn't really the key player in mining. It's all about this one.

Miner 1: Ah, got it. So, we're talking about the one that handles the heavy calculations?

Miner 2: Exactly! The speed of it is crucial for efficient mining.

Miner 1: Makes sense. So, which one would you recommend for mining specific coins?

Miner 2: It depends on the coin. Some coins require more processing power, while others benefit from higher clock speeds.

Miner 1: Interesting. So, we need to find the "right one" for each coin's algorithm.

Miner 2: Absolutely. One with higher gigahertz can handle complex calculations faster, resulting in better mining performance.

Miner 1: Great! Let's do some research to find the ideal one for each coin we want to mine.

Question: What computer component are they discussing?

34. Read what happened to one Internet user and answer the question below:

You know, I've always thought I was pretty tech-savvy. I mean, I know my way around the internet and all that. So when I heard about this thing, I thought it was the perfect solution. Little did I know that using it would lead to a disaster I never saw coming.

You see, I wanted to access some content that was blocked in my region. It's not like I was doing anything illegal or shady, just wanted to watch a show that wasn't available here. So, I decided to give this whole thing a try. It seemed pretty straightforward: you just connect through a different server and voila! Unblocked content, right?

Well, turns out I was wrong. Dead wrong. You see, this thing acted as an intermediary between me and the internet. It intercepted all my requests and responses, kind of like a middleman. And yeah, it could even mask my IP address, which sounded pretty cool at the time.

But here's the catch. It didn't encrypt my internet traffic. And I didn't know any better. So, all the data I sent and received, everything was out there in the open for anyone to see. Can you imagine? My personal information, my browsing history, everything was just floating around, vulnerable to interception and monitoring by those third-party creeps.

I thought I was being clever, finding a way to bypass those restrictions. But instead, I unknowingly put myself at risk. And let me tell you, it's a horrible feeling to know that someone could be snooping around in your private stuff.

I wish I had known about this other thing. It's like a shield for your internet connection, encrypting everything that goes back and forth between your device and its server. That would have saved me from this nightmare. Plus, it gives you a new IP address, adding an extra layer of protection to your privacy.

So, here's the lesson I learned the hard way: not all methods of accessing blocked content are created equal. Yeah, proxies and VPNs might seem similar on the surface, but they're not the same. And when it comes to security, VPNs are the way to go. Trust me, you don't want to experience the heartache and stress of having your personal data stolen like I did.

In this day and age, when everything is connected to the internet, it's crucial to be aware of the risks and take the necessary precautions. So, do yourself a favor and make sure you're using a secure connection. Don't make the same mistake I did.

Question: What did the person use to connect to blocked content?

35. Electronic gadgets regulate electric ... or voltage to carry out different operations.

36. What do diodes do in an electronic circuit?

37. What can we access using electronics?

38. What was one of the limitations of point-contact transistors connected to their fragility?

39. What advantage do field-effect transistors (FETs) have over earlier types of them?

40. Transistors are called the building ... of modern electronics.

41. If the system allows us to distantly control temperature, lights, and security in our homes, it is called

42. The element inside a vacuum tube that together with electrodes controls the flow of electric current is referred to as a

43. One of the main advantages of X-ray maskless lithography is that it allows for production of circuits of higher

44. Match the first halves of the sentences with their second halves a-d:

45. Find the best preposition for each English phrase:

46. Match the English phrases below with their Russian translations:

47. Match the technical terms below with their characteristics:

48. Put the words and word combinations below in order to form a meaningful sentence:

49. Put the words and word combinations below in order to form a meaningful sentence:

50. Put the words and word combinations below in order to form a meaningful sentence:

51. Read what a representative of a chip manufacturer tells us about one aspect of their manufacturing technology and answer the question below.

As a chip producer that aims to accomplish higher levels of power efficiency and scalability, we utilize this type of transistors, which employ extremely thin wires as channels. The nanoscale size of the wires allows for better control over the flow of electrons, enabling faster switching speeds and enhanced functionality in electronic devices. This is one of the key cutting edges of our production.

Question: What type of transistor do they use in their processors?

52. Put the lines in the dialogue between a processor supplier and a smartphone manufacturer in a chronological order, separate the numbers with 1 gap.

Supplier: I apologize for the inconvenience, but we have currently run out of 6-nm micro-chips. However, we do have an alternative option available. We can offer you 2000 micro-chips with a size of 12 nanometers (nm) at half the regular price.

Supplier: Hello, this is Winder-Chip Supply Company. How may I assist you today?

Supplier: Certainly! We specialize in providing micro-chips for various electronic devices. How many micro-chips are you looking to order?

Producer: Hi, this is SmartTech, a smartphone production company. I'm calling to inquire about ordering some micro-chips.

Producer: Thank you for the offer, but we are specifically looking for 6-nm microchips for our smartphones. The 6-nm chips provide us with better performance and power efficiency, which aligns with our product's specifications and requirements. Therefore, we cannot consider the 12-nm chips as a suitable substitute.

Producer: We are interested in purchasing 1000 micro-chips with a size of 6 nanometers (nm). Do you have them in stock?

Supplier: You're welcome! Have a great day as well, and we'll be in touch soon. Goodbye.

Producer: We appreciate your efforts, but at the moment, we cannot compromise on the quality and performance of our smartphones. We will wait for the availability of the 6-nm micro-chips. Please let us know as soon as they are back in stock, and we will proceed with our order.

Supplier: Certainly, we value your business and understand your need for the specific micro-chips. We will prioritize restocking the 6-nm chips and inform you promptly once they are available. Thank you for considering Micro-Chip Supply Company, and we look forward to serving you in the future.

Supplier: I understand your concerns. Unfortunately, due to the high demand for 6-nm micro-chips, our stock has been depleted. We are actively working to restock them, but it may take some time. Is there any flexibility in your requirements, or can we assist you with any other products or services?

Producer: Thank you for your understanding and assistance. We'll eagerly await your update on the availability of the 6-nm micro-chips. Have a great day.

53. How does a Data Management Platform (DMP) work?

54. One of the key features of a DBMS is

55. Which input device allows users to perform gestures like tapping, swiping, and pinching?

56. Which output device is used for printing large-format graphics or technical drawings?

57. What is the main function of a Central Processing Unit (CPU)?

58. Data Management Platforms (DMPs) are designed to ... data and analyze various forms of information, including customer details, website traffic, and the performance of marketing campaigns.

59. One of the primary functions of a DBMS is to ensure the ... of data through the implementation of constraints, triggers, and referential integrity.

60. A touchpad, also referred to as a ... , is a widely utilized input device found on laptops. Users can navigate, click, scroll, and perform various other actions by moving their fingers across a smooth surface.

61. Speakers play a vital role in providing output for audio or sound, which is essential for multimedia applications, gaming, and ... of audio content.

62. The primary responsibility of the Central Processing Unit (CPU) is to perform calculations, execute instructions, and oversee the ... of data within a computer system.

63. Match the first and the second halves of the sentences below:

64. Match the English sentences below with their Russian translations:

65. Match the English phrases with their Russian equivalents:

66. Put the words and word combinations below in order to form a meaningful sentence:

67. Put the words and word combinations below in order to form a meaningful sentence:

68. Read the text below and answer the question below:

As a programmer, I face challenges when writing code for the latest models of this part in computers. This piece of hardware can be tricky and needs careful work. People want realistic graphics, and there's a new technology that creates lifelike visuals by simulating light in real-time. It allows computers to show amazing graphics in games and rendering. But coding drivers for it and making it work well can be tough. It's an ongoing effort to get the best performance and compatibility for this extremely important computer part.

What kind of hardware does the programmer mean?

69. Read the following dialogue between a company's owner and a programmer and answer the question below. Write one word only.

The programmer: The guys think the design is pretty slick. Have you tested it? Is it intuitive?

The owner: Well, yes.... And I think you should give it more enhancements. The user needs a more seamless and intuitive experience, or they will have difficulty generating reports, statements, invoices and inputting primary payment documents. Can you add a "send to all" button for the staff and build in a word processor to check the spelling in reports? And also we need an online goods return and customer complaint processor.

The programmer: Sure, no problem. What would you like me to include in it?...

Question: What aspect of the corporate network are the programmer and the company owner discussing?