

Coding Test Answers:

1. Reverse a String: Given a string 'Hello, World!', write JavaScript code to reverse it without using any built-in methods or functions.

```
const originalString = "Hello, World!";
let reversedStr = "";
for (let i = originalString.length - 1; i >= 0; i--) {
    reversedStr += originalString[i];
}
console.log(reversedStr);
// Output: !dlroW ,olleH
```

2. Add a method called introduce to the person object. The introduce method should take one parameter, age, and log the message "Hello, my name is [name] and I am [age] years old" to the console.

```
const person = {
    name: "Raj",
    introduce: function(age) {
        console.log(`Hello, my name is ${this.name} and I am ${age} years old`);
    }
};
person.introduce(25); // Output: Hello, my name is John and I am 25 years old
```

3. Async and Await: Explain what async and await are in JavaScript and provide examples demonstrating their usage.

Async and Await are the keywords in javascript which are used in a convenient way to work with asynchronous operations and making them easy to understand.

The 'async' keyword is used to define an asynchronous function. The 'await' keyword can only be used inside async functions. It makes JavaScript wait until the promise settles and returns its result.

Essentially, 'await' pauses the execution of the async function until the promise is settled, and then it resumes the function's execution.

Example:

```
function delay(ms) {  
  return new Promise(resolve => setTimeout(resolve, ms));  
}  
  
async function asyncFunction() {  
  console.log('Start');  
  
  await delay(2000);  
  console.log('After 2 seconds delay');  
  
  await delay(1000);  
  console.log('After 1 more second delay');  
  
  return 'Completed';  
}  
  
asyncFunction().then(result => console.log(result)); // Output: Done
```

4. Can you provide an example of a callback function?

A callback function is a function that is passed as an argument to another function and is executed after some operation has been completed. Callbacks are commonly used in asynchronous operations, such as reading a file, making network requests, or handling events.

```
function fetchData(callback) {  
  console.log('Fetching data...');  
  
  setTimeout(() => {  
    const data = {  
      userId: 1,
```

```

        id: 1,
        title: 'Example',
        body: 'This is an example of a callback function.'
    };

    callback(data);
}, 2000);
}

function handleData(data) {
    console.log('Data received:', data);
}

fetchData(handleData);
// Output: Fetching data...
Data received: {
  userId: 1,
  id: 1,
  title: 'Example',
  body: 'This is an example of a callback function.'
}

```

5. How can we achieve positional and keyword arguments in javascript?

Positional arguments: They are the traditional way of passing arguments to a function, where the order of arguments matters.

Example:

```

function greet(name, greeting) {
    console.log(`${greeting}, ${name}!`);
}

```

```

greet("Alice", "Hello"); // Output: Hello, Alice!
greet("Bob", "Hi");      // Output: Hi, Bob!

```

Keyword arguments: They can be simulated in JavaScript by passing an object to the function and using object de-structuring within the function to extract the required parameters. This allows you to specify arguments by name, making the order irrelevant.

Example:

```

function greet(name, greeting) {
    console.log(`${greeting}, ${name}!`);
}

```

```
greet(name = "Alice", greeting = "Hello"); // Output: Hello, Alice!  
greet(name = "Bob", greeting = "Hi");    // Output: Hi, Bob!
```

6. Explain how the `map()` method is used in JavaScript to transform elements of an array. Provide an example demonstrating the transformation of elements from the original array `[1, 2, 3, 4, 5]` into a new array containing the squared values of each element.

The `map()` method in JavaScript is used to create a new array by applying a function to each element of an existing array. The function passed to `map()` is called once for each element in the array, and the return value of this function is used to build the new array.

Syntax: `array.map(callback(element[, index[, array]]), thisArg)`

```
let num = [1,2,3]  
let num2 = num.map(n => n*n)  
console.log(num2)  
//Output: [ 1, 4, 9 ]
```

7. Explain how the `filter()` method is used in JavaScript to filter elements of an array. Provide an example demonstrating the filtering of elements from the original array `[1, 2, 3, 4, 5]` to create a new array containing only the even numbers.

The `filter()` method in JavaScript is used to create a new array with all elements that pass a test specified by a callback function. It does not mutate the original array but returns a new array containing only the elements that satisfy the condition.

```
const originalArray = [1, 2, 3, 4, 5];
```

```
const evenNumbers = originalArray.filter(function(element) {  
    return element % 2 === 0;  
});
```

```
const evenNumbersArrow = originalArray.filter(element => element % 2 === 0);
```

```
console.log(evenNumbers);    // Output: [2, 4]  
console.log(evenNumbersArrow); // Output: [2, 4]
```

8. Write Python code to calculate the factorial of a non-negative integer without using a function.

```

let nums = [1,2,3,4,5,6,7,8,9,0]
let nums2 = nums.filter(n=> n%2==0)
# Input: non-negative integer
n = 5

result = 1

for i in range(1, n + 1):
    result *= i

print(f"The factorial of {n} is {result}")
#Output: The factorial of 5 is 120

```

9. Find out the given date is valid or invalid? date:30/02/2020, 31/03/2000, 31/07/2029

```

from datetime import datetime

def is_valid_date(date_str):
    try:
        datetime.strptime(date_str, '%d/%m/%Y')
        return True
    except ValueError:
        return False

dates = ["30/02/2020", "31/03/2000", "31/07/2029"]

for date in dates:
    if is_valid_date(date):
        print(f"{date}"):

#Output: 30/02/2020: Invalid
         31/03/2000: Valid
         31/07/2029: Valid

```

10. If the date is valid find out whether the given year is leap year or not? using js or python.

```

function isLeapYear(year) {
    if (year % 4 === 0) {
        if (year % 100 === 0) {
            if (year % 400 === 0) {

```

```

        return true; #Year is divisible by 400, so it is a leap year
    } else {
        return false; #Year is divisible by 100 but not by 400, so it is not a leap
year
    }
} else {
    return true; #Year is divisible by 4 but not by 100, so it is a leap year
}
} else {
    return false; #Year is not

```

11. What is the type of console.log("22"+2); in js or print("22"+2) python;

Javascript:

```
console.log("22" + 2); // Outputs "222"
```

Python:

```
print("22" + 2) # Raises TypeError: can only concatenate str (not "int") to str
```

12. How to read the json file using js or python?

Data.js:

```
{ "name": "John Doe", "age": 30, "city": "New York" }
```

App.js:

```
import jsonData from './data.json';
```

```
console.log(jsonData);
```

```
// You can now work with the JSON data here
```

```
console.log(jsonData.name); // Outputs: John Doe
```

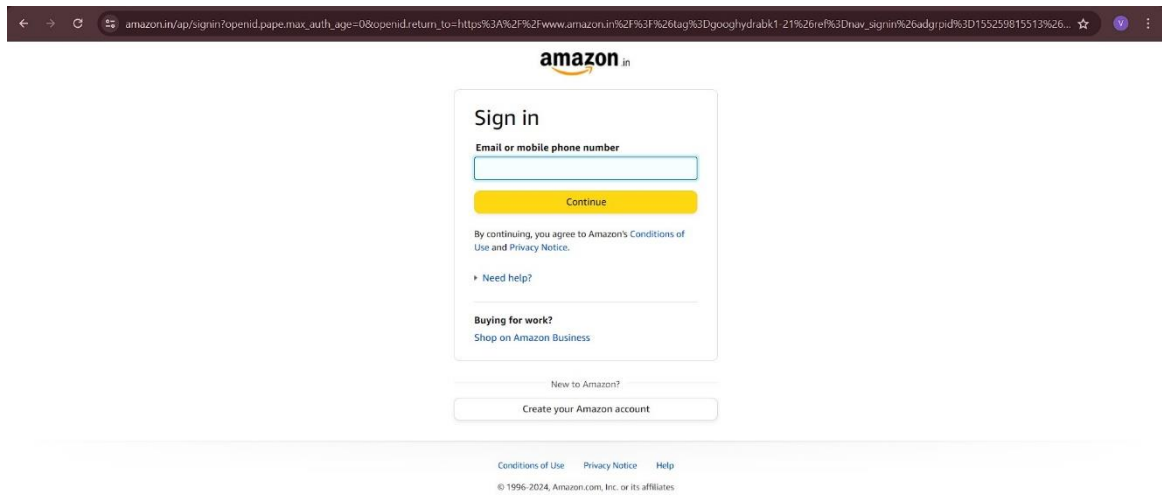
```
console.log(jsonData.age); // Outputs: 30 console.log(jsonData.city);
```

```
// Outputs: New York
```

13. Visit any application (E-Commerce or Banking) and document the steps with screen shot.

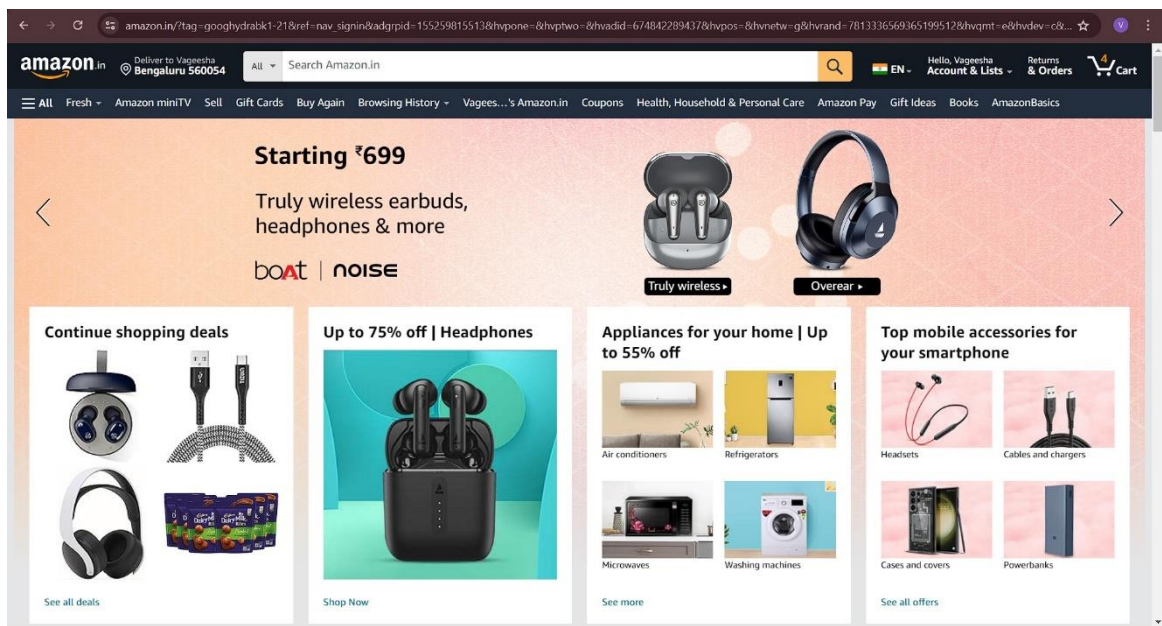
Amazon E-commerce website:

Step 1: Log In/Sign Up page



The image shows the Amazon.in sign-in page. At the top, the Amazon.in logo is centered. Below it, a white box contains the 'Sign in' heading. Underneath, there is a label 'Email or mobile phone number' followed by a text input field. A yellow 'Continue' button is positioned below the input field. Below the button, a line of text states: 'By continuing, you agree to Amazon's Conditions of Use and Privacy Notice.' Below this text is a link that says 'Need help?'. Further down, there is a section titled 'Buying for work?' with a link 'Shop on Amazon Business'. At the bottom of the white box, there is a link 'New to Amazon?' and a button 'Create your Amazon account'. Below the white box, there are links for 'Conditions of Use', 'Privacy Notice', and 'Help'. At the very bottom, a copyright notice reads: '© 1996-2024, Amazon.com, Inc. or its affiliates.'

Step 2: Home page



The image shows the Amazon.in home page. At the top, the Amazon.in logo is on the left, followed by the delivery location 'Deliver to Vagesha Bengaluru 560054'. A search bar with the placeholder 'Search Amazon.in' is in the center. On the right, there are links for 'Hello, Vagesha Account & Lists', 'Returns & Orders', and a shopping cart icon. Below the header, there is a navigation bar with links: 'All', 'Fresh', 'Amazon miniTV', 'Sell', 'Gift Cards', 'Buy Again', 'Browsing History', 'Vageesha's Amazon.in', 'Coupons', 'Health, Household & Personal Care', 'Amazon Pay', 'Gift Ideas', 'Books', and 'AmazonBasics'. The main banner features a promotion for 'Starting ₹699 Truly wireless earbuds, headphones & more' by 'boat | noise'. It shows two products: 'Truly wireless' earbuds and 'Overear' headphones. Below the banner, there are four promotional tiles. The first tile is 'Continue shopping deals' showing various products. The second tile is 'Up to 75% off | Headphones' showing a pair of headphones. The third tile is 'Appliances for your home | Up to 55% off' showing air conditioners, refrigerators, microwaves, and washing machines. The fourth tile is 'Top mobile accessories for your smartphone' showing headsets, cables and chargers, cases and covers, and powerbanks. Each tile has a 'See all' link at the bottom.

Step 3: Finding the product

amazon.in AmazonBasics Bluetooth Speaker-Soundbar-Playtime/dp/B0BLNKQMJD/ref=s9_acsd_al_ot_cv2_2_t?encoding=UTF8&pf_rd_m=A21TJRUUN4KGV&pf_rd_s=merchandise-search-4&pf_rd_r=...

Deliver to Vageesha Bengaluru 560054

Electronics Search Amazon.in

EN Hello, Vageesha Account & Lists Returns & Orders Cart Subtotal ₹0.00 Go to Cart

All Fresh Amazon miniTV Sell Gift Cards Buy Again Browning History Vagees...s Amazon.in Coupons Health, Household & Personal Care Amazon Pay Gift Ideas Books

Electronics Mobiles & Accessories Laptops & Accessories TV & Home Entertainment Audio Cameras Computer Peripherals Smart Technology Musical Instruments Office & Stationery

GOVO Gosurround 220 16W Bluetooth Sound Bar, 2000 Mah Battery, 2.0 Channel with 52Mm Drivers, Multicolor Led Lights with TWS, Aux, Bluetooth and USB (Platinum Black... 4.487 -77% ₹999.00 ₹4,299.00 prime

Back to results

16 WATT IMMERSIVE AUDIO EXPERIENCE

amazon basics Bluetooth Speaker 5.3 Soundbar with 16W RMS, 2000mAh Battery, Upto 19 Hrs Playtime Aux/USB Port (Blue) Brand: amazon basics 3.8 5,181 ratings Search this page 400+ bought in past month

-55% ₹999 M.R.P.: ₹2,199

8 Fulfilled Inclusive of all taxes EMI starts at ₹346 per month. EMI options

Offers

Partner Offers Get GST invoice and save up to 28% on business purchases. 1 offer

Cashback ₹10 cashback. Buy with items in cart. 1 offer

₹999.00 8 Fulfilled FREE delivery Wednesday, 29 May. Details Or fastest delivery Today. Order within 4 hrs 32 mins. Details Deliver to Vageesha - Bengaluru 560054

In stock Ships from Amazon Sold by Appario Retail Private Ltd

Add a Protection Plan:

☐ Extended Warranty by ONSITEGO for ₹74.93

☐ Extended Warranty by OneAssist for ₹89.00

☐ Extended Warranty by OneAssist for ₹149.00

Quantity: 1

amazon.in AmazonBasics Bluetooth Speaker-Soundbar-Playtime/dp/B0BLNKQMJD/ref=s9_acsd_al_ot_cv2_2_t?encoding=UTF8&pf_rd_m=A21TJRUUN4KGV&pf_rd_s=merchandise-search-4&pf_rd_r=...

Deliver to Vageesha Bengaluru 560054

Electronics Search Amazon.in

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All Fresh Amazon miniTV Sell Gift Cards Buy Again Browning History Vagees...s Amazon.in Coupons Health, Household & Personal Care Amazon Pay Gift Ideas Books

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AmazonBasics Bluetooth Speaker 5.0 Soundbar

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Offers

Partner Offers Get GST invoice and save up to 28% on business purchases. 1 offer

Cashback ₹10 cashback. Buy with items in cart. 1 offer

7 days Replacement Free Delivery 1 Year Warranty Pay on Delivery

Colour: Blue

₹999.00 ₹999.00 ₹999.00

Brand amazon basics Connectivity Bluetooth, Auxiliary, USB, wireless Audio Output Mode Surround

FREE delivery Wednesday, 29 May. Details Or fastest delivery Today. Order within 4 hrs 32 mins. Details Deliver to Vageesha - Bengaluru 560054

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☐ Extended Warranty by OneAssist for ₹149.00

Quantity: 1

Add to Cart Buy Now

Secure transaction Add gift options Add to Wish List

ZEBRONICS Compact yet powerful soundbar

Step 4: After clicking on “Buy Now”

The screenshot shows the Amazon India checkout page. The browser address bar displays `amazon.in/gp/buy/payselect/handlers/display.html?_from=cheetah`. The page header includes the Amazon logo and the word "Checkout". The main content area is divided into two sections: "1 Delivery address" and "2 Select a payment method". The "Select a payment method" section includes a "Your available balance" field with an "Enter Code" input and an "Apply" button. Below this, there are radio buttons for "Credit or debit card", "Net Banking", "Other UPI Apps", and "EMI Unavailable Why?". The "Credit or debit card" option is selected, showing logos for VISA, MasterCard, American Express, and RuPay. The "Net Banking" option has a "Choose an Option" dropdown. The "Other UPI Apps" option is also visible. The "EMI Unavailable Why?" option is at the bottom. A "Cash on Delivery/Pay on Delivery" option is highlighted in orange, with the text "Cash, UPI and Cards accepted. Know more." Below the payment method options is a yellow button labeled "Use this payment method". To the right of the payment method section is an "Order Summary" box. It contains the text "Use this payment method" and "Choose a payment method to continue checking out. You will still have a chance to review and edit your order before it is final." Below this is a table with the following data:

Order Summary	
Items:	₹999.00
Delivery:	--
Total:	--
Promotion Applied:	--
Order Total:	--

Below the table is a link that says "How are delivery costs calculated?".

Step 5: Choosing the payment Method

The screenshot shows the Amazon India checkout page, similar to the previous one, but with the "Cash on Delivery/Pay on Delivery" option selected. The "Use this payment method" button is now highlighted in orange. The "Order Summary" box is still present on the right, showing the same data as before. Below the payment method section, there are two more sections: "3 Offers" and "4 Items and delivery". At the bottom of the page, there is a small section with the text "Need help? Check our help pages or contact us". Below this is a paragraph of text: "When your order is placed, we'll send you an e-mail message acknowledging receipt of your order. If you choose to pay using an electronic payment method (credit card, debit card or net banking), you will be directed to your bank's website to complete your payment. Your contract to purchase an item will not be complete until we receive your electronic payment and dispatch your item. If you choose to pay using Pay on Delivery (POD), you can pay using cash/card/net banking when you receive your item. See Amazon.in's Return Policy."

Step 6: Placing the order

amazon.in/go/buy/spc/handlers/display.html?hasWorkingJavascript=1

Add delivery instructions

2 Payment method

Pay on delivery (Cash/Card)

Change

^ Add a gift card or promotion code

Enter Code

Apply

3 Offers

4 Review items and delivery

Arriving 29 May 2024

If you order in the next 15 hours (Details)

Items dispatched by Amazon

Fulfilled

amazon basics Bluetooth Speaker 5.3

Soundbar with 16W RMS, 2000mAh

Battery, Upto 19 Hrs Playtime

Aux/USB Port (Blue)

₹2,199.00

₹999.00

Fulfilled

Qty: 1

▼

Sold by: Appario Retail Private Ltd

Add gift options

Choose a delivery option:

Wednesday 29 May

FREE Delivery

Tomorrow, 28 May

₹99.00 One-Day Delivery at Rs. 99 per item, FREE with Prime

Today by 10 pm

₹119.00 Same-Day Delivery at Rs. 119 per item, FREE with Prime

Place your order

Order Total: ₹999.00

By placing your order, you agree to Amazon's privacy notice and conditions of use.

Place your order

By placing your order, you agree to Amazon's privacy notice and conditions of use.

Order Summary

Items: ₹999.00

Delivery: ₹40.00

Total: ₹1,039.00

Promotion Applied: -₹40.00

Order Total: ₹999.00

Your Savings: ₹1,240.00 (55%)

FREE Delivery

Item discount

Details

How are delivery costs calculated?

Why didn't I qualify for FREE Delivery?

Need help? Check our help pages or contact us

When your order is placed, we'll send you an e-mail message acknowledging receipt of your order. If you choose to pay using an electronic payment method (credit card, debit card or net banking), you will be directed to your bank's website to complete your payment. Your contract to purchase an item will not be complete until we receive your electronic payment and dispatch your item. If you choose to pay using Pay on Delivery (POD), you can pay using cash/card/net banking when you receive your item.

See Amazon.in's Return Policy.