

Web Development

Assignment

JS Basics

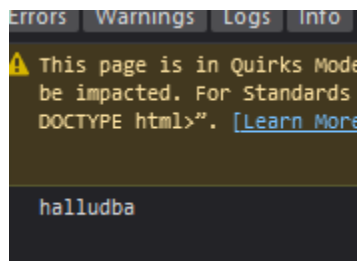
Abdullah Ziauddin

Q1. Reverse a string without using the built-in reverse() method.

Code:

```
index.js > ...  
1   let a = "abdullah";  
2   let b = "";  
3   for(let i = a.length-1 ; i>=0 ; i--){  
4     b+=a[i];  
5   }  
6   console.log(b)
```

Output:



The screenshot shows a web browser's developer console. At the top, there are tabs for 'Errors', 'Warnings', 'Logs', and 'Info'. A yellow warning icon is visible next to the text: 'This page is in Quirks Mode... be impacted. For Standards DOCTYPE html>". [Learn More]'. Below this, the output of the JavaScript code is displayed as 'halludba'.

Q2. Count the number of vowels in a given string.

Code:

```

index.js > ...
1  let a = "abdullah";
2  let v = 0;
3  let c = 0;
4  for(let i = 0 ; i<a.length ; i++){
5
6      if (a[i] == 'a' || a[i] == 'e' || a[i] == 'i' || a[i] == 'o' || a[i] == 'u') {
7          v += 1;
8      }
9  else{
10     c+=1;
11 }
12
13 }
14
15 console.log("Number of vowels = "+v);

```

Output:

```

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html>". Learn More

Number of vowels = 3

```

Q3. Convert the first letter of each word in a sentence to uppercase.

Code:

```

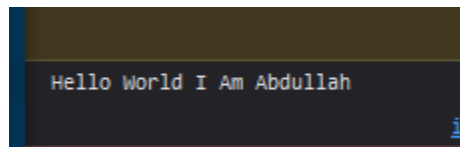
let sen = "hello world i am abdullah";

let a = sen.split(" ");
let b = "";
for(let i = 0 ; i<a.length ; i++){

    a[i] = a[i][0].toUpperCase()+a[i].slice(1);
    b+=a[i] + " ";
}
console.log(b);

```

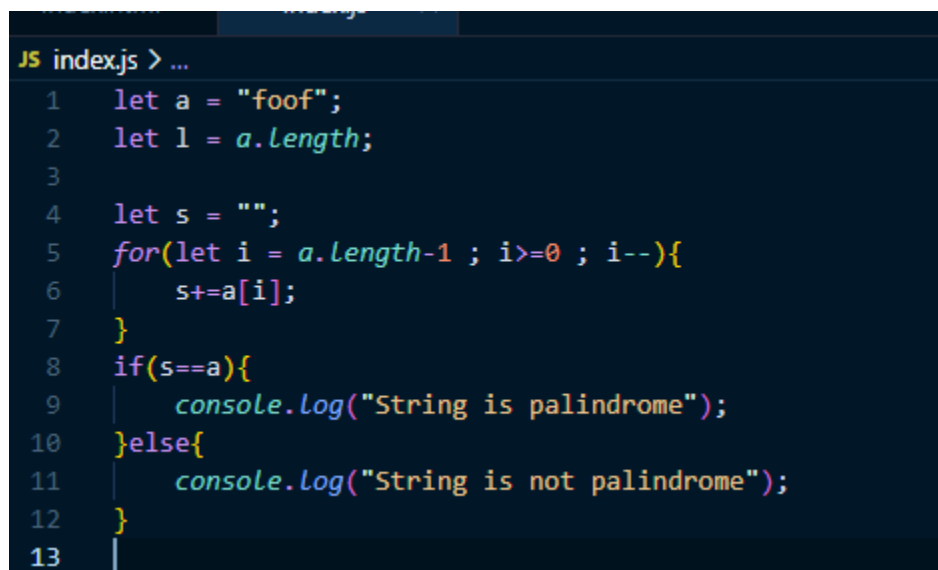
Output:



Hello World I Am Abdullah

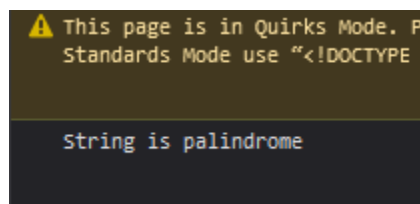
Q4. Check if a string is a palindrome.

Code:



```
JS index.js > ...
1  let a = "foof";
2  let l = a.length;
3
4  let s = "";
5  for(let i = a.length-1 ; i>=0 ; i--){
6    s+=a[i];
7  }
8  if(s==a){
9    console.log("String is palindrome");
10 }else{
11   console.log("String is not palindrome");
12 }
13
```

Output:



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Standards Mode use "<!DOCTYPE

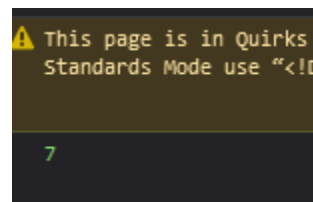
String is palindrome

Q5. Find the sum of all positive numbers in an array.

Code:

```
index.js > ...  
  
    let a = [1,-4,3,-2,3,-3];  
    let sum=0;  
    for(let i = 0 ; i<a.length ; i++){  
        if(a[i]>=0){  
            sum+=a[i];  
        }  
    }  
    console.log(sum);
```

Output:



A screenshot of a browser's developer console. At the top, there is a yellow warning icon followed by the text: "This page is in Quirks Standards Mode use <!DOCTYPE html>". Below this, the output of the code is displayed as the number "7".

Q6. Find the index of the first occurrence of a specific element in an array.

Code:

```
let a = "hello";  
  
let index;  
  
for(let i = 0 ; i<a.length;i++){  
    if(a[i]=="l"){  
        index = i;  
        break;  
    }  
}  
console.log("First occurence of l in the string is at "+index+" index.")
```

Output:

First occurrence of e in the string is at 2 index.

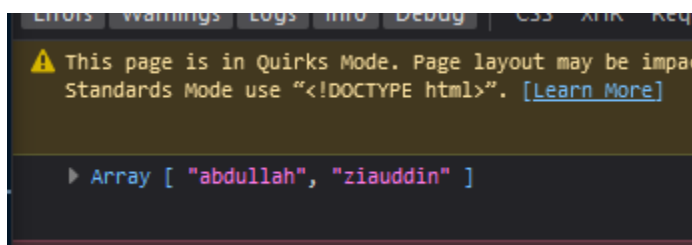
Q7. Remove all duplicates from an array without built-in methods.

Code:

```
let arr = ["hello", "abdullah", "hello", "ziauddin"];

for(let i = 0 ; i < arr.length ; i++){
  for(let j = 0 ; j < arr.length ; j++){
    if(arr[i] == arr[j]){
      arr.splice(j, 1);
    }
  }
}
console.log(arr);
```

Output:

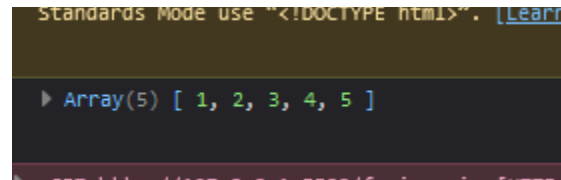


Q8. Sort the array in ascending and descending without built-in methods.

Code:

```
1
2  let a = [2,3,1,4,5];
3
4  for(let i = 0 ; i<a.length;i++){
5      for(let j=0;j<a.length;j++){
6          if(a[j]>a[j+1]){
7              let temp = a[j];
8              a[j] = a[j+1];
9              a[j+1] = temp;
10         }
11     }
12 }
13 console.log(a);
```

Output:



The screenshot shows a web browser console with the text "Standards Mode use "<!DOCTYPE html>". [Learn...]" at the top. Below it, a log entry shows "Array(5) [1, 2, 3, 4, 5]".

Q9. Print all even numbers between 1 and 20 using a while loop.

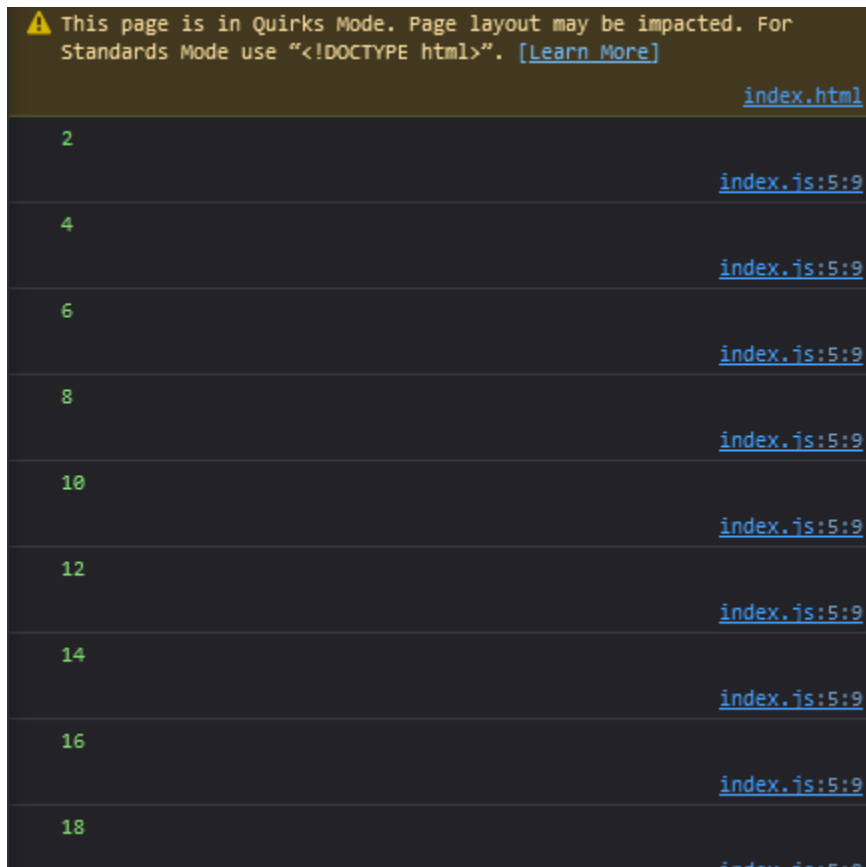
Code:

```
index.js > ...
  let i = 2;

  while (i!=20) {

    console.log(i);
    i = i+2;
  }
```

Output:

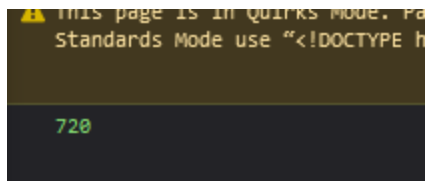


Q10. Calculate the factorial of a number using a do-while loop.

Code:

```
let n = 6;
let i = n;
let fac = 1;
do{
  fac = fac*i;
  i--;
}while(i!=1)
console.log(fac);
```

Output:

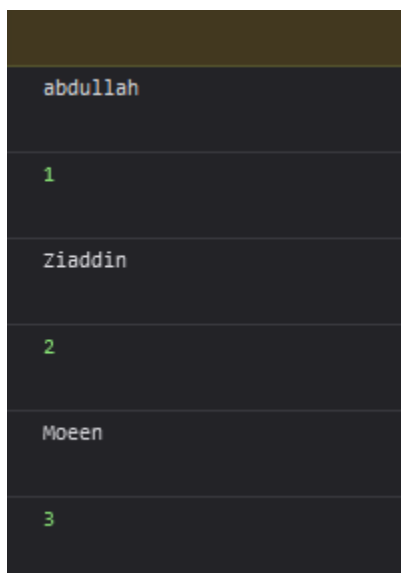


Q11. Iterate through the properties of an object using a for-in loop

Code:

```
let a = {  
  "abdullah":1, "Ziaddin":2,"Moeen":3  
}  
  
for(i in a){  
  console.log(i);  
  console.log(a[i]);  
}
```

Output:



Q12. Loop through an array using a for-of loop and double each element.

Code:


```
dex.js > ...  
    let a = [2,4,6,8,10];  
    for (i of a){  
        console.log(i);  
    }
```

Output:

```
⚠ This page is in Quirks Mode. Page layout may be incompatible with  
standards Mode use "<!DOCTYPE html>". [Learn More]  
  
2  
  
4  
  
6  
  
8  
  
10
```

Q13. Check if a number is even or odd and return a corresponding message.

Code:

```
index.js > ...  
    let n = 2;  
    if (n%2==0) {  
        console.log(n + " is even.");  
    }else{  
        console.log(n+" is odd.");  
    }
```

Output:

```
Standards Mode use "<!DOCTYPE html>".  
  
2 is even.
```

Q14. Find the maximum of three numbers using nested ternary operators.

Code:

```
ex.js > ...  
let a = 10;  
let b = 20;  
let c = 15;  
  
let max = a > b ? (a > c ? a : c) : (b > c ? b : c);  
  
console.log("The maximum of the three numbers is:", max);  
|
```

Output:

```
The maximum of the three numbers is: 20
```

Q15. Determine if a year is a leap year or not.

Code:

```
ex.js > ...  
let year = 2024;  
  
if (year % 4 === 0 && (year % 100 !== 0 || year % 400 === 0)) {  
|   console.log(year + " is a leap year.");  
} else {  
|   console.log(year + " is not a leap year.");  
}  
|
```

Output:

```
2024 is a leap year.
```

