

4-oy 1-dars.

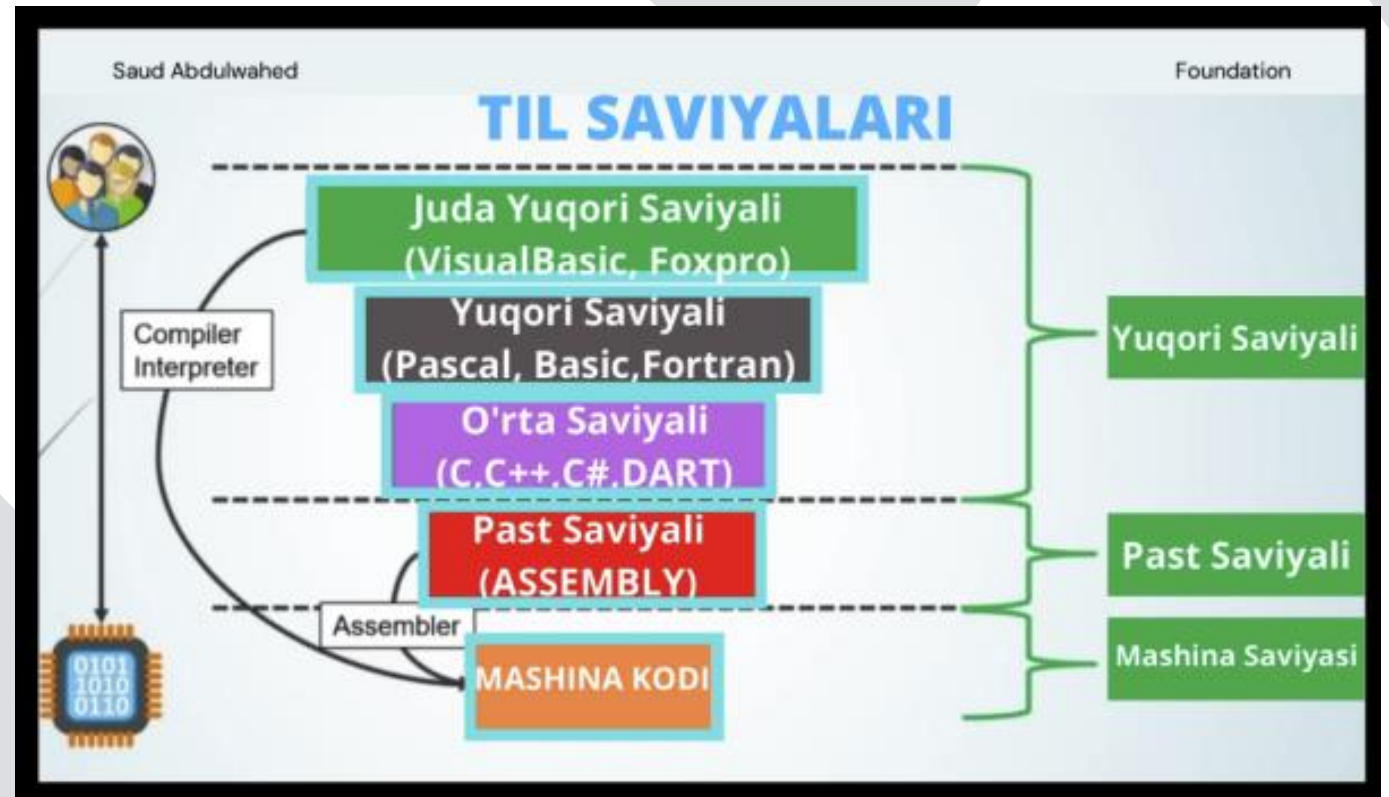
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Reja:

1. Dasturlash tillari
2. Javascript nima?
3. Javascriptni run qilish usullari
4. O'zgaruvchilar
5. O'zgaruvchilarni nomlash qoidalar
6. Costantalar
7. Console log
8. Concetenation
9. Izohlar
10. Ma'lumotlar turlari

Dasturlash tillari

Dasturlash tili - bu kompyuter dasturlarini yozish uchun mo'ljallangan rasmiy til.



Yuqori darajadagi dasturlash tillari

```
unsigned fib(unsigned n) {  
    if (!n)  
        return 0;  
    else if (n <= 2)  
        return 1;  
    else {  
        unsigned a, c;  
        for (a = c = 1; ; --n) {  
            c += a;  
            if (n <= 2) return c;  
            a = c - a;  
        }  
    }  
}
```

Quyidagi darajadagi dasturlash tillari

```
_fib:
    movl $1, %eax
.fib_loop:
    cmpl $1, %edi
    jbe .fib_done
    movl %eax, %ecx
    addl %ebx, %eax
    movl %ecx, %ebx
    subl $1, %edi
    jmp .fib_loop
.fib_done:
    ret
```

Mashinniy kod

```
8B542408 83FA0077 06B80000 0000C383  
FA027706 B8010000 00C353BB 01000000  
B9010000 008D0419 83FA0376 078BD989  
C14AEBF1 5BC3
```



Javascript nima?

JavaScript kuchli va moslashuvchan dasturlash tili hisoblanadi. U veb-brauzerda va serverlarda ishlashi mumkin, bu bizga popup (modal) menyular, animatsiyalar, formalarni tekshirish va mobil dasturlar, interaktiv veb-sahifalar, o'yinlar, IoT qurilmalarni yozishga imkon beradi.



Javascriptni ishga tushurish

1. Brauzerning console'i orqali
2. Node.js'dan foydalanib
 - a. Node.js (back-end run-time environment) ni install qilish (windos, linux, macOS)
 - b. Terminal (CMD) da ham node buyrug'ini terib ishga tushursak bo'ladi.
3. Web sahifada. script tegi orqali.

O'zgaruvchilar

Dasturlashda o'zgaruvchi o'zida ma'lumotni saqlab turuvchi quti, joy.

JavaScriptda var, let, const kalit so'zlaridan foydalanib o'zgaruvchi e'lon qilinadi:

```
var x = 10;  
let y = 'salom';  
const nimadir = 'boshqa';  
// Bu yerda x, y va z o'zgaruvchi nomlari.
```

Var, let const farqlari

var	let	const
var javascriptning eskiroq versiyalarida ishlatilindi. (eski brauzerlarda)	let javascriptda o'zgaruvchi e'lon qilishning yangi usuli. ES6(ES2015)	O'zgaruvchi e'lon qilishning yangi usuli. ES6 da qo'shilgan.
var function scoped	let block scoped (keyinroq tushunib olamiz)	block scoped
hoistingga uchraydi, undefined birikib qoladi	hoistingga uchraydi, undefined birikib qoladi	hoistingga uchraydi, undefined birikib qoladi
bir nom bilan qayta qayta yozish mumkin	mumkin emas	mumkin emas
qiymatni qayta o'zlashtirish mn	qiymatni qayta o'zlashtirish mn	qiymatni qayta o'zlashtirish mn emas
dastlab e'lon qilganda qiymat o'zlashtirmasa bo'ladi	dastlab e'lon qilganda qiymat o'zlashtirmasa bo'ladi	dastlab e'lon qilganda qiymat o'zlashtirish shart

Javascript

O'zgaruvchiga qiymat berish uchun (=) assign operatoridan foydalanamiz.

```
let x; // x e'lon qilindi
console.log(x);
x = 5; // 5 xga o'zlashtirildi, saqlandi

// e'lon qilish usullari
let x = 5; // ham e'lon qilib ham o'zlashtirish mn
let y = 6;

let x = 5, y = 6, z = 7; // bir nechtni e'lon qilib ham o'zlashtirish mn

// Agar o'zgaruvchi e'lon qilgan paytda qiymat bermasangiz
// uning qiymati undefined bo'ladi

let x; // x is the name of the variable

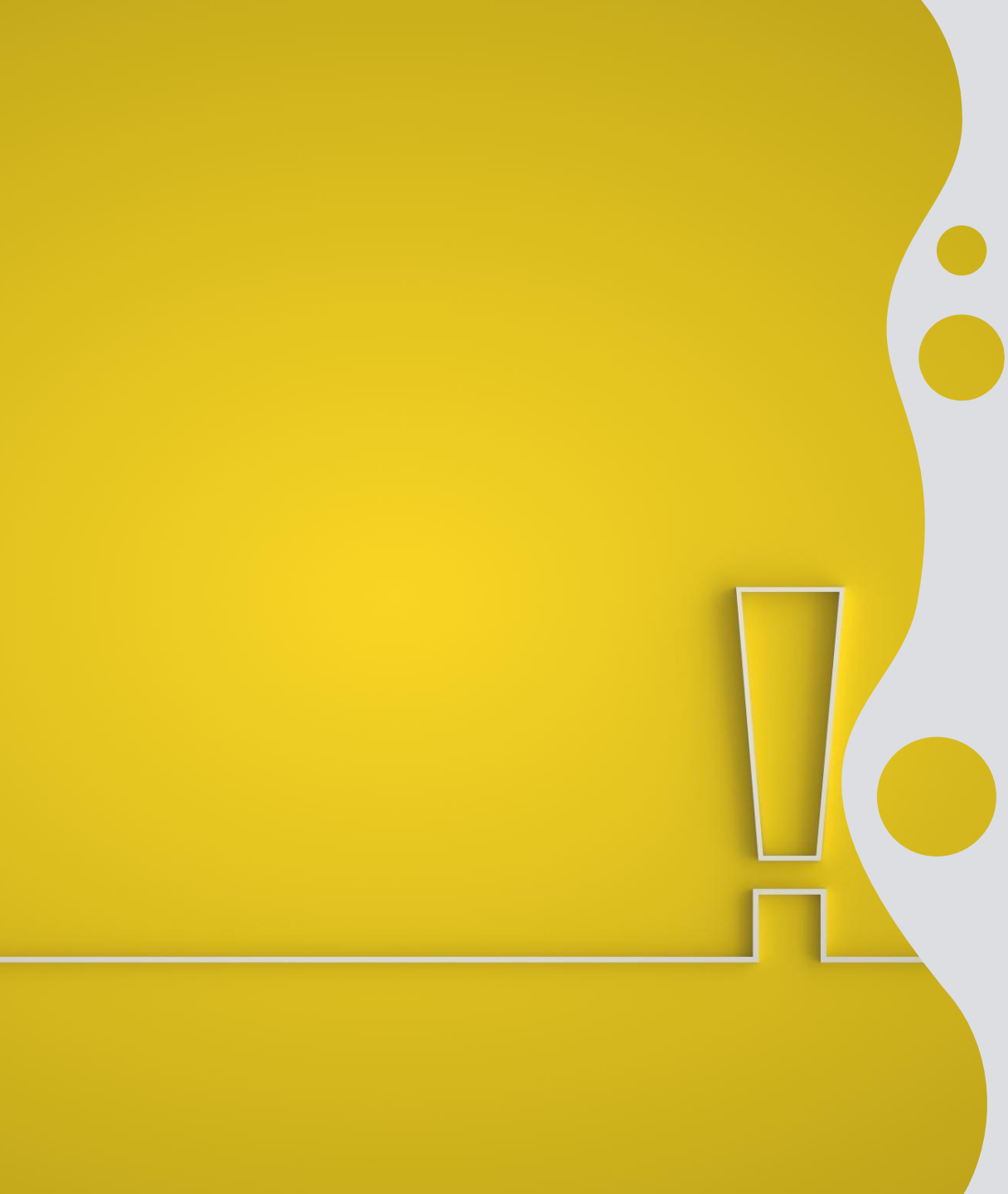
console.log(x); // undefined
```

Javascript

O'zgaruvchilar qiymatlarini almashtirish

```
// 5 is assigned to variable x
let x = 5;
console.log(x); // 5

// vaue of variable x is changed
x = 3;
console.log(x); // 3
```



O'zgaruvchilarni nomlash qoidalari

1. Nomlashda \$ (dollar) va _ (pastki chiziq) dan foydalanish mn
2. Nomlarni sonlardan boshlash mumkin emas
3. Case sensitive, y va Y ning farqi bor
4. keyword so'zlar (band qilingan so'zlar, google it) mumkin emas: new

Naming Conventions

1. camelCase var firstName = "Usmon"

2. snake_case var first_name = "Umar"

3. PascalCase var FirstName = "Siddiq"

4. kebab-case - Not Allowed in JS

O'zgarmaslar

- o'zgaruvchi e'lon qilishning yana bir turi const

```
const a = 89;
```

- qiymatini o'zgartirib bo'lmaydi (no reassign)
- qiymatsiz e'lon qilib bo'lmaydi (must initialize)



console

Console.log

Alert

Document.write

Confirm

prompt

Concetenation

```
console.log('Salom' + 'Ali')
```

```
`salom ${nimadir}`
```

JavaScript comments

```
// bir qatorli komment
```

```
/*  
* ko'p  
* qatorli komment  
*/
```

Data types

Data type'lar ikki oilaga bo'linadi.

1. Primitive
2. Reference

Data types

☰ Data Types	☰ Description	☰ Example	Aa Title
<code>String</code>	represents textual data	<code>'hello'</code> , <code>"hello world!"</code> etc	<u>Untitled</u>
<code>Number</code>	an integer or a floating-point number	<code>3</code> , <code>3.234</code> , <code>3e-2</code> etc.	<u>Untitled</u>
<code>BigInt</code>	an integer with arbitrary precision	<code>900719925124740999n</code> , <code>1n</code> etc.	<u>Untitled</u>
<code>Boolean</code>	Any of two values: true or false	<code>true</code> and <code>false</code>	<u>Untitled</u>
<code>undefined</code>	a data type whose variable is not initialized	<code>let a;</code>	<u>Untitled</u>
<code>null</code>	denotes a <code>null</code> value	<code>let a = null;</code>	<u>Untitled</u>
<code>Symbol</code>	data type whose instances are unique and immutable	<code>let value = Symbol('hello');</code>	<u>Untitled</u>
<code>Object</code>	key-value pairs of collection of data	<code>let student = { };</code>	<u>Untitled</u>

Foydali linklar

1. https://www.w3schools.com/js/js_reserved.asp
2. <https://htmlacademy.ru/courses/343>
3. <https://learn.javascript.ru/>,
4. <https://javascript.info/>
5. <https://www.freecodecamp.org/>

Vazifa

1. daftarga bugungi darsni yozish
2. JS reserved keywords yodalab olish
3. console.log da hamma ma'lumot turlaridan foydalanib chiqarib
4. <https://learn.javascript.ru/types>
5. <https://www.freecodecamp.org/learn/javascript-algorithms-and-data-structures/#basic-javascript>
6. Youtube videolar
 1. https://www.youtube.com/watch?v=q8yclECd9CY&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&ab_channel=UlugbekSamigjonov
 2. https://www.youtube.com/watch?v=4aDeGEntGFw&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&index=2&ab_channel=UlugbekSamigjonov
 3. https://www.youtube.com/watch?v=tuh2r2ITcmE&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&index=3&ab_channel=UlugbekSamigjonov
 4. https://www.youtube.com/watch?v=0WT9kISJl38&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&index=4&ab_channel=UlugbekSamigjonov
 5. https://www.youtube.com/watch?v=mr8yY89SN5c&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&index=5&ab_channel=UlugbekSamigjonov
 6. https://www.youtube.com/watch?v=9ORRqb1ahSQ&list=PLpDyZ4xZcDg8fRiY6xgsQcDiMjNYJhNjE&index=6&ab_channel=UlugbekSamigjonov