NAZARBAYEV UNIVERSITY

SCHOOL OF ENGINEERING AND DIGITAL SCIENCES

Web Programming and Problem Solving

JavaScript Functions (lab)

Date: 21.10.2022

Instructor: Zhandos Yessenbayev

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Task

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Goal:

- In this **Lab** you will build practical skills how to:
  - use JavaScript conditionals;
  - define functions to solve problems;
  - run the functions within the program;
  - output the results of computations.
- **Deadlines:**
  - **Soft** deadline: Tuesday, 25.10.2022, until 23:59
  - **Hard** deadline: Wednesday, 26.10.2022, until 23:59

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Theoretical background

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JavaScript Conditionals

- **If-Else** conditional is a programming construct that changes the flow of a program based on the ***condition*** (some ***logical expression***).
- If the ***condition*** is true, then Conditional code is executed.
- If the ***condition*** is false, then Else code is executed.
- After If-Else block is executed, then the rest of the program is executed.

Syntax:

```
If ( condition ) {
        // Conditional code
}
else {
        // Else code
}
```

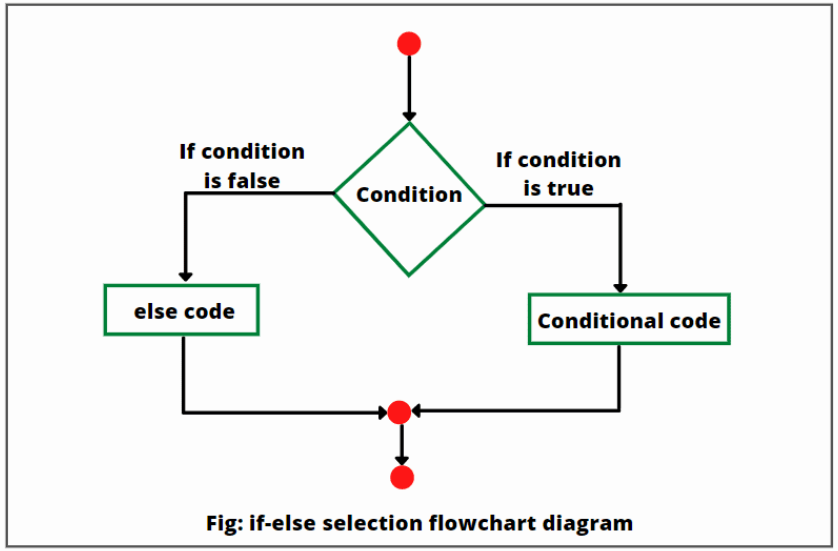

Fig: if-else selection flowchart diagram

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Theoretical background

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- Here is the example of using the If-Else construct:

```
let x = 2
let y = 3
If ( x > y ) {
        // Conditional code
        console.log("x is greater than y")
}
else {
        // Else code
        console.log("y is greater than x")
}
```

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Theoretical background

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- In the case when there are more than two outcomes of the condition, you can use else if construct (as many as you need):

```
let x = 2
let y = 3
If ( x > y ) {
        console.log(“x is greater than y”)
}
else if (x == y ) {
        console.log(“x and y are equal”)
}
else {
        console.log(“y is greater than x”)
}
```

- If non of the cases is **true**, then finally else statement will be executed.

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Task

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In this task you need to select and solve at least three problems in the file "**Programming Exercises 1.docx**" such that (**30 points**):

- the first problem must be selected between 1-8,
- the second problem must be selected between 9-15,
- the third problem can be any of the rest problems.

- Note: It is clear that the number of problems is less than the number of students and there will be overlaps. In this regard, please try to solve the problems individually, otherwise similar solutions will result in 0 (zero) without explanation !!!

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Submission

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To submit your work, follow these instructions (**10 points**):

1. Create a new repository on Github, named lab9.
2. Clone this repository to your local machine and work inside it.
3. Create a new HTML file, called index.html, which has only one **<h1>** tag with “Hello, World!” message.
4. Create a new JavaScript file, called main.js, which **must** contain your program (assignment) described above.
5. Link this main.js file to your index.html file (see the lecture notes).
6. The output of your program **must** be visible in the Console tab of the browser’s Developer Tools.
7. After you finish your work, submit it to the Github.

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Grading

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Task	Points
First problem	10
Second problem	10
Third problem	10
Submission on Github	10
TOTAL	**40**