**Assignment 1**

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INFO 653 001 – Web Development III

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# **Introduction**

This report examines the functionality of a basic math calculation using a program written in JavaScript programming language. This program provides extensive basic math calculations, including addition (+), subtraction (-), multiplication (\*), and division (\*). Additionally, it will include programming concepts such as conditional statements (using switch-case), loops (while and for), jumping statements (break and continue), and error handling using try/catch.

# **Program Overview**

The program is structured with:

* User Input: Using Node.js function (readline) to get the user input.
* Calculation: Based on the user’s selected choice, it will perform a basic math calculation neither addition, subtraction, multiplication, and division.
* Code Flow: The program continues to run with a loop of (while) to allow the user to use multiple operations until the user decides to exit and break the loop.
* Error Handling: Using try/catch to ensure that the user won’t input any non-numeric and division-by-zero. If so, the program will show an error message.

# **Code Explanation**

## **Setting Up**

The code begins with importing all necessary packages or libraries (readline).

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## **User Input**

Define questions and get user responses to continue the program.

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A screen shot of a computer program

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## **Operation Functions**

Define separate 4 math functions by using an array of numbers and for loop.

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A screen shot of a computer code

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A screen shot of a computer code

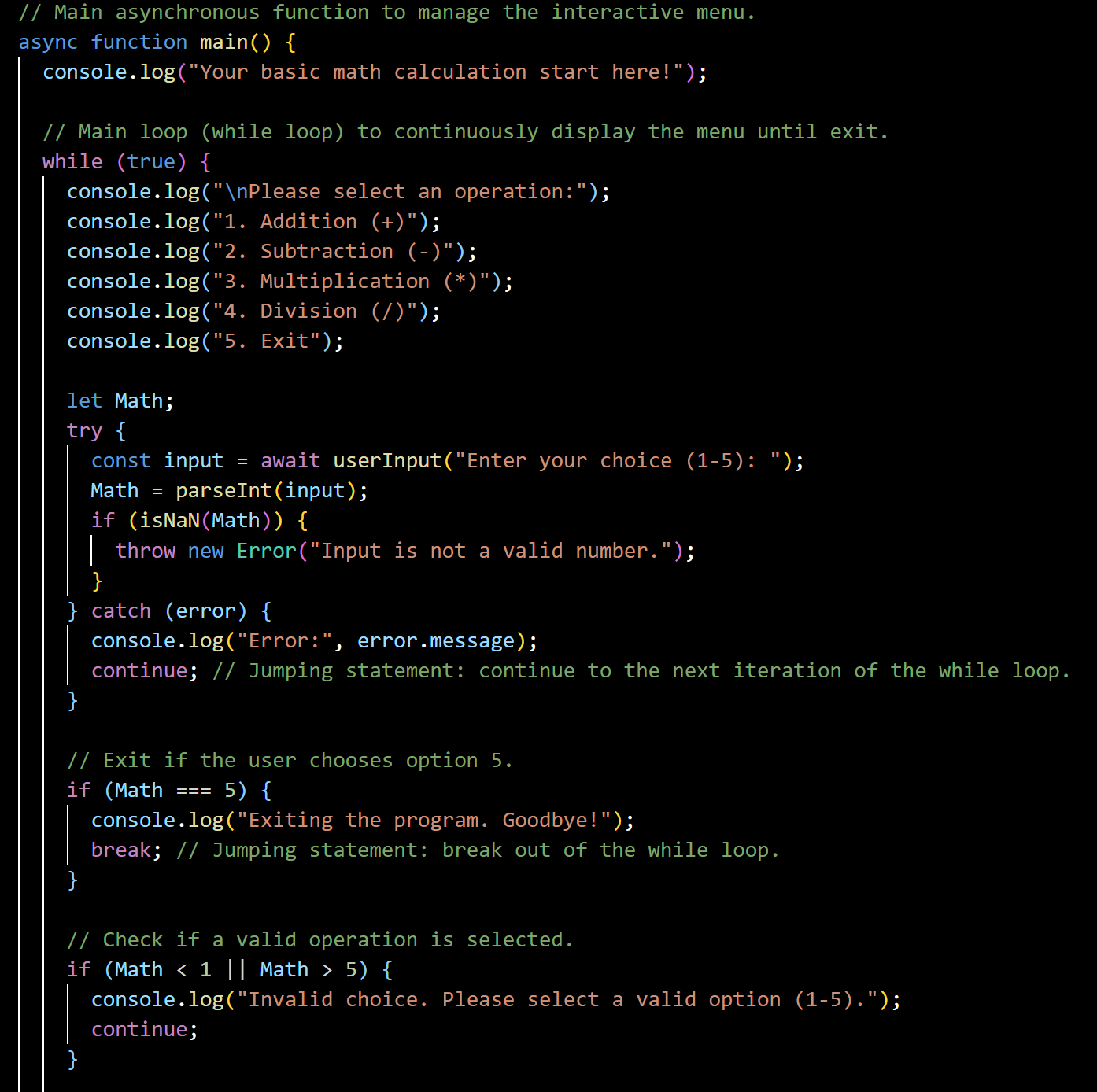
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A screen shot of a computer code

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## **Main and Control Flow**

Create a main function to control the flow of code with a while loop, switch-case, and try/catch error handling.



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# **Program output**

## **Startup Menu**

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## **Result Displays**

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# **Conclusion**

## **Key findings**

* + Basic math calculation using JavaScript.
  + Able to use multiple times until exit.
  + A combination of while and for loop keeps the program continuously working.
  + Error handling did not allow any non-numeric and other unnecessary input.

## **Limitations**

* + Can’t perform other operations besides addition, subtraction, multiplication, and division.
  + Lack of UI, the program running on the backend (terminal).
  + Limited error handling, the program cannot let the user reinput after getting an error unless they rerun the program.

## **Future Research and Improvement**

* + Improve advanced mathematical operation.
  + Developing frameworks for better user-friendly interfaces.

## **Code submission**

# References

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