RAJSHAHI UNIVERSITY OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

COURSE TITLE
SOFTWARE ENGINEERING & INFORMATION SYSTEM DESIGN SESSIONAL

COURSE NO
ECE 3118

LAB REPORT : 1

REPORT ON: Report on Basic Documentation with Markdown, Practicing Naming Techniques in Programming and Study of different git commands

DATE OF EXPERIMENT : 21 APRIL 2024 SUNDAY

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COMPILED BY	SUBMITTED TO
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Objectives

Basic Documentation with Markdown, best coding practices with comment to indicate the naming convention in program.

1. Write a code to manage shopping list to add, delete items to the list and display it – (Pascal)

2. Write a code to select CR where each student is represented by a structure containing ther name, roll number, marks. CR is choosen based on highest mark - (Snake + Camel)

3. Write a code to add, subtract, multiply and divide – (Use different Techinques)

And study of different git commands.

Implementation

```
// Markdown.md
# THIS IS THE BIGGEST HEADING WITH SINGLE
HASH ## THIS IS WITH DOUBLE HASH
### TRIPPLE HASH BUT REMEMBER YOU MUST USE SPACE BETWEEN THE HASH
AND THE SENTENCE
#### OTHERWISE IT WILL NOT WORK

**NOT JUST BOLD** BUT ALSO *ITALIC*

> I just have some sayings that I can put as quotes in markdown.
Thanks to the creators of Markdown language
But it is not finishing. How those creators made it like gum.



1. List One
2. List Two
3. List Three
4. List Four
5. List Five
6. List Six

- unordered one
- unordered two
- unordered three

    `is markdown a programming language or markup language?`

---
Here we have a original horizontal line to separate segments of
documentation

[Link to Documentation](https://www.markdownguide.org/cheat-
sheet/)
![Image or Link](https://w7.pngwing.com/pngs/918/742/png-
transparent-logo-brand-markdown-others-blue-logo-sign-
thumbnail.png)
```

NOW LET US COME TO THE TABLE TO EAT SOMETHING GOOD

SYNTAX	DESCRIPTION
**	MAKE YOUR TEXT BOLD BUT YOU CAN'T USE SPACE
>	MAKE YOUR QUOTES BUT IT NEVER ENDS

`SIMPLE CODE`
```
{
    lang: "markdown",
    type: "not simple code",
    bool: true

}
```

you ever been used to use footnote? {#footnote}

term
: here is what def This
is a footnote [^2]

[^2]: this is the foot

~~Nothing is working properly brother~~
` < here space is forbidden for strike ~~[to strike]~~`

Track my Lab Report Progress

    - [x] What is the Experiment?
    - [x] Practice the Experiment
    - [x] Make a Rough Report
    - [ ] Revision and Improve
    - [ ] Final Checkout and Print

:joy:

==very very very important element H~2~0 or H^2^==

H~2~0 or H^2^

```javascript
// best-coding-practices.js
// Problem 1
let ProductList = [{Id:1,ProductName:"Laptop",Quantity:20, Price:
20000},{Id:2,ProductName:"Laptop",Quantity:20,    Price:    20000},
{Id:3,ProductName:"Laptop",Quantity:20,        Price:        20000},
{Id:4,ProductName:"Desktop",Quantity:10, Price: 80000}];

// Update Product List Function
let UpdateProductList = (Id, ProductName, Quantity, Price) => {
    ProductList.push({Id:Id,ProductName:ProductName,Quantity:Quant
ity,Price:Price});
}

let DeleteProduct = (ProductList,Id) => {
    ProductList = ProductList.filter(Product => Product.Id !=
    Id); return ProductList;

}
// Call Update Product List
UpdateProductList(5,"Mobile",10,8000);



// Display Function
let DisplayProductList = (ProductList) =>
    { ProductList.map((Product) => {
        console.log(Product)
    })
}

DisplayProductList(DeleteProduct(ProductList,2));



// Problem 2
// array name in snake_naming_convention
let student_list = [
    {
        fullName: "TAJIM NOOR", // structure property names in
camelCase rollNumber:
        21, marks: 89

    },
    {
        fullName: "DIBAKAR",
        rollNumber: 22,
        marks: 70
    },
    {
        fullName: "ADIB AL MEHMOOD",
```

```javascript
            rollNumber: 23,
            marks: 90
        },
        {
            fullName: "SAKLAINE NOOR",
            rollNumber: 24,
            marks: 40
        },
        {
            fullName: "HAFIZ SAIMON",
            rollNumber: 25,
            marks: 50
        },
        {
            fullName: "TOUFIQ ISLAM",
            rollNumber: 26,
            marks: 75
        }
];

let choose_cr = (student_list) =>
    { let highest_mark = 0;
    let cr_roll = 0;
    student_list.map(student => {
        if(highest_mark<student.marks) {
            highest_mark = student.marks;
            cr_roll = student.rollNumber;
        }
    })
    student_list.map(student => {
        if(student.rollNumber == cr_roll){
            console.log(student);
        }
    })
}

//call cr
choose_cr(student_list);

// Problem 3

function calculate(num1, num2) {
  const sum = num1 + num2;
  const difference = num1 - num2;
  const product = num1 * num2;
  const quotient = num1 / num2;
  return { sum, difference, product, quotient };
}

const result = calculate(10, 5);
```

```javascript
console.log("Camel Case Results:", result);

function calculate_numbers(number_1, number_2)
  { const total_sum = number_1 + number_2;
  const difference = number_1 - number_2;
  const product = number_1 * number_2;
  const quotient = number_1 / number_2;
  return { total_sum, difference, product, quotient };
}

const result = calculate_numbers(10, 5);
console.log("Snake Case Results:", result);


function CalculateNumbers(Number1, Number2) {
  const Sum = Number1 + Number2;
  const Difference = Number1 - Number2;
  const Product = Number1 * Number2;
  const Quotient = Number1 / Number2;
  return { Sum, Difference, Product, Quotient };
}

const result = CalculateNumbers(10, 5);
console.log("Pascal Case Results:", result);

function calculate-numbers(num-1, num-2)
  { const total-sum = num-1 + num-2;
  const difference = num-1 - num-2;
  const product = num-1 * num-2;
  const quotient = num-1 / num-2;
    return {  'total-sum':  total-sum,  difference,  product,
quotient };
}

const result = calculate-numbers(10, 5);
console.log("Kebab Case Results:", result);

// git.sh
git init
git add mylabfile.md
git commit -m
"2010047" git status
git diff
git branch main
git checkout dup
git merge dup
git remote add origin <remote_url>
git push origin main
git pull origin dup
git log
```

```
git reset --hard <commit_hash>
git revert <commit_hash>
```

Discussion

We can easily document any of our project with a readme markdown file. Naming techniques in programming act like road signs in our code, guiding everyone to understand what things do, reducing errors, saving maintenance time, and promoting collaboration through clear and consistent communication within the code itself. And git is the ultimate solution for any large scale team project collaboration.

References

[1]   Blog - Naming conventions in programming – a review of scientific literature: https://arxiv.org/pdf/2103.07487

[2]   YouTube video - Programming Naming Conventions Every Programmer Should Know: https://www.youtube.com/watch?v=ON00cOfZhX4