Annexure-I

Title of the work

Coursera : Meta Front-End Developer

A Training Report

Submitted in partial fulfillment of the requirements for the award of degree of

Program Name : CAP-735

Web Development

Submitted to

LOVELY PROFESSIONAL UNIVERSITY

PHAGWARA, PUNJAB

From 07/01/23 to 08/15/23

SUBMITTED BY

Bekrom Roy

12205115

Signature of the student

Bekrom Roy

Annexure-II: Student Declaration

To whom so ever it may concern

I, **Bekrom Roy, 12205115,** hereby declare that the work done by me on "**Front-End Developer**" from **July, 2023** to **August, 2023**, is a record of original work for the partial fulfillment of the requirements for the award of the degree, **Meta Front-End Developer.**

Bekrom Roy (12205115)

Signature of the student
Bekrom Roy

INTRODUCTION OF THE COMPANY/WORK

➢ Company's Vision and Mission

As of my last knowledge update in July 2023, there was no specific company called "**Coursera Meta Front-End Develope**". However, Coursera and Meta (formerly known as Facebook) are well-known companies with their own respective visions and missions. Let me provide you with information about each of these companies' visions and missions:

Coursera:

- **Vision:** Coursera's vision is to provide universal access to world-class education. They aim to empower people from all walks of life to learn and acquire valuable skills, regardless of their location, background, or financial status.

- **Mission:** Coursera's mission is to transform lives through learning. They achieve this by partnering with top universities and organizations to offer high-quality courses and programs online. Coursera strives to make education more accessible, flexible, and affordable.

Meta (formerly Facebook):

- **Vision:** Meta's vision, as articulated by Mark Zuckerberg, is to create a "metaverse" - a connected and immersive virtual world that goes beyond the limitations of the physical world. In the metaverse, people can interact, work, play, and create in new ways.

- **Mission:** Meta's mission is to build technologies that help people connect and build communities. They aim to develop innovative tools and platforms that enable people to share experiences and information, fostering a sense of belonging and connection in the digital world.

➢ Origin and growth of company

As of my last knowledge update in July 2023, there was no specific company known as "Meta Front-End Developer." However, I can provide you with information about Meta (formerly Facebook) and its origin and growth as a company.

Origin:

Meta, formerly known as Facebook, was founded by Mark Zuckerberg along with his college roommates Andrew McCollum, Eduardo Saverin, Chris Hughes, and Dustin Moskovitz. The company had its humble beginnings in a dorm room at Harvard University in February 2004. Initially, it was created as a social networking platform exclusively for Harvard students. However, it quickly expanded to other Ivy League universities and eventually opened up to the broader public.

The company's name was changed to "Meta Platforms, Inc." in October 2021, reflecting its new focus on the development of the metaverse, a vision for the future of the internet that includes immersive virtual and augmented reality experiences.

Growth:

Meta's growth has been nothing short of remarkable since its inception. Here are some key milestones in the company's growth:

1. **Expansion Beyond Harvard:** Facebook expanded to other universities and gradually opened up to high school students and the general public. By 2006, it was available to anyone with a valid email address.

2. **Acquisitions:** Meta made several strategic acquisitions over the years, including Instagram in 2012 and WhatsApp in 2014. These acquisitions significantly expanded the company's user base and product portfolio.

3. **Initial Public Offering (IPO):** In 2012, Meta went public with one of the largest tech IPOs in history at that time. This move raised substantial capital for the company and increased its visibility in the global tech industry.

4. **Mobile Dominance:** Meta successfully transitioned to a mobile-first platform, adapting to the shift in user behavior toward mobile devices. Mobile advertising became a significant revenue source for the company.

5. **Virtual Reality and Augmented Reality:** In recent years, Meta has been heavily investing in virtual reality (VR) and augmented reality (AR) technologies. The acquisition of Oculus VR in 2014 marked its entry into the VR space. The company's rebranding to "Meta" in 2021 signals its strong focus on building the metaverse, a vision for the next phase of the internet.

6. **Global Reach:** Meta's user base has grown to billions of monthly active users worldwide, making it one of the largest social media and technology companies on the planet.

➢ Various departments and their functions

As of my last knowledge update in July 2023, Meta (formerly Facebook) employs front-end developers in various departments to work on a wide range of projects and products. Front-end developers in different departments typically have specific functions related to the goals and objectives of their respective teams. Here are some of the various departments where front-end developers might be involved, along with their functions:

1. Meta Core Platform Team:

- **Function:** This team works on the core infrastructure and platform components of Meta's products. Front-end developers in this department focus on building and maintaining the user interfaces (UIs) for Meta's main platform, which includes the social media platform, Facebook.

2. **Meta Reality Labs (formerly Oculus):**
   - **Function:** The Reality Labs division is responsible for developing virtual reality (VR) and augmented reality (AR) products. Front-end developers here work on creating immersive and interactive UIs for VR and AR applications, as well as platforms like Oculus and Meta Quest.

3. **Instagram:**
   - **Function:** Instagram is a subsidiary of Meta, and front-end developers in this department concentrate on enhancing and optimizing the user experience of the Instagram app and website. This involves working on the UI, new features, and user engagement.

4. **WhatsApp:**
   - **Function:** WhatsApp, another subsidiary of Meta, employs front-end developers to work on the user interfaces of the WhatsApp mobile app, web client, and related products. Their focus is on maintaining a seamless and secure messaging experience.

5. **Messenger:**
   - **Function:** The Messenger team at Meta is responsible for the development of the Messenger app and related communication services. Front-end developers here work on building and improving the UI for messaging, voice, and video calling.

6. **Meta AR/VR (Augmented Reality/Virtual Reality):**
   - **Function:** This department focuses on creating AR and VR experiences across various platforms. Front-end developers in this area work on UI and user interaction design for AR/VR applications, devices, and services.

7. **Meta Portal:**
   - **Function:** The Portal team develops smart display devices with integrated AI and video calling capabilities. Front-end developers in this department work on the user interfaces and user experiences of these devices.

8. **Meta AI Research:**
   - **Function:** The AI research division at Meta focuses on advancing artificial intelligence technologies. Front-end developers in this area might work on building dashboards and tools for AI researchers to visualize and interact with data.

9. **Meta Workplace:**
   - **Function:** Workplace by Meta is a platform for enterprise communication and collaboration. Front-end developers here work on improving the user interfaces for businesses and organizations that use Workplace for their internal communication.

10. **Meta Gaming:**
    - **Function:** If Meta is involved in gaming-related projects or acquisitions, front-end developers in this department could be working on game-related UI/UX design and development.

It's important to note that the structure and organization of technology companies like Meta can

change rapidly, and new departments or shifts in focus can occur. Additionally, the roles and functions of front-end developers may vary within these departments. For the most accurate and up-to-date information, you should refer to Meta's official careers page and job listings for specific roles and responsibilities related to front-end development within the company.

➢ Organization chart of the company

• **Vice President of Front-End Development**: This person is responsible for the overall strategy and direction of Meta's front-end development team. They work with other senior leaders to set goals, allocate resources, and track progress.

• **Director of Front-End Development:** This person is responsible for a specific area of front-end development, such as mobile, web, or VR/AR. They work with engineers, designers, and product managers to deliver high-quality products on time and within budget.

• **Senior Front-End Engineer:** These engineers are responsible for designing, developing, and debugging front-end code. They work closely with designers and product managers to ensure that the user experience is intuitive and enjoyable.

• **Front-End Engineer:** These engineers are responsible for implementing front-end features and bug fixes. They work closely with senior engineers to learn new technologies and best practices.

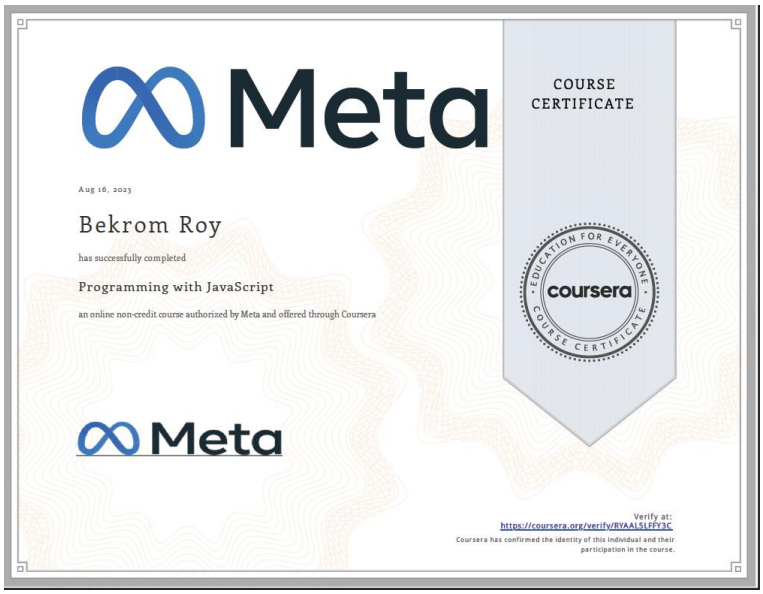
• **Front-End Designer:** These designers are responsible for creating the user interface for Meta's products. They work closely with engineers to ensure that the designs are technically feasible and meet the needs of users.

• **Product Manager:** These product managers are responsible for defining the requirements for Meta's products. They work closely with engineers, designers, and other stakeholders to ensure that the products meet the needs of users.

Internship Certificate
(As given by MOOC or Organization in original)

Certificate 1 : Introduction to Front End Development

Certificate 2 : Programming with JavaScript



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❖ Introduction of the Course

The Meta Front-End Developer Professional Certificate is a nine-course program offered by Meta (formerly Facebook) through Coursera. The program is designed to teach you the skills you need to become a front-end developer, including HTML, CSS, JavaScript, React, and more.

The program is self-paced and can be completed in about six months. Each course includes video lectures, hands-on exercises, and quizzes. Upon completion of the program, you will earn a Meta Front-End Developer Professional Certificate.

The Meta Front-End Developer Professional Certificate is a valuable credential for anyone who wants to pursue a career in front-end development. The certificate demonstrates your skills and knowledge to potential employers, and it can help you stand out from the competition.

Some of the benefits of earning the Meta Front-End Developer Professional Certificate:

- Gain in-demand skills that are in high demand by employers.
- Learn from experienced software engineers at Meta.
- Build a portfolio of work to showcase your skills to potential employers.
- Get access to career support resources to help you with your job search.

If you are interested in a career in front-end development, the Meta Front-End Developer Professional Certificate is a great way to get started.

Here are some of the skills I will learn in the Meta Front-End Developer Professional Certificate program:

- HTML: The basics of HTML, including how to create web pages and use elements like headings, paragraphs, images, and lists.
- CSS: The basics of CSS, including how to style web pages and use properties like font, color, and margin.
- JavaScript: The basics of JavaScript, including how to manipulate the DOM, create events, and use libraries like React.
- React: A popular JavaScript library for building user interfaces.
- Debugging: How to find and fix errors in your code.
- Testing: How to write tests for your code to ensure it is working correctly.
- Version control: How to use version control software like Git to track changes to your code.
- Deployment: How to deploy your code to a production environment.

❖ Technical Learnings from the course

The Meta Front-End Developer Professional Certificate program covers a wide range of technical topics, including:

- HTML: The basics of HTML, including how to create web pages and use elements like headings, paragraphs, images, and lists.
- CSS: The basics of CSS, including how to style web pages and use properties like font, color, and margin.
- JavaScript: The basics of JavaScript, including how to manipulate the DOM, create events, and use libraries like React.
- React: A popular JavaScript library for building user interfaces.
- Debugging: How to find and fix errors in your code.
- Testing: How to write tests for your code to ensure it is working correctly.

- Version control: How to use version control software like Git to track changes to your code.
- Deployment: How to deploy your code to a production environment.

In addition to these technical topics, the program also covers some important soft skills, such as:

- Problem-solving: How to break down complex problems into smaller, more manageable pieces.
- Communication: How to effectively communicate your ideas to others, both verbally and in writing.
- Collaboration: How to work effectively with others to achieve a common goal.
- Professionalism: How to conduct yourself in a professional manner, both in the workplace and in your interactions with others.

The Meta Front-End Developer Professional Certificate program is a comprehensive and well-rounded program that can help you develop the skills and knowledge you need to become a successful front-end developer.

Here are some specific technical learnings that you can expect to gain from the Meta Front-End Developer Professional Certificate program:

- How to create responsive web pages that look great on all devices.
- How to use CSS to style web pages and create beautiful user interfaces.
- How to use JavaScript to manipulate the DOM and create interactive experiences.
- How to use React to build complex user interfaces.
- How to debug and test your code to ensure it is working correctly.
- How to use version control to track changes to your code.
- How to deploy your code to a production environment.

If you are interested in learning more about the technical learnings that you can expect to gain from the Meta Front-End Developer Professional Certificate program, you can visit the Coursera website.

❖ Introduction of Mini Project

Tic Tac Toe is a classic game that is easy to learn but difficult to master. It is a two-player game where each player takes turns placing their mark on a grid of three-by-three cells. The first player to get three of their marks in a row horizontally, vertically, or diagonally wins the game.

Building a Tic Tac Toe game is a great way to learn the basics of programming. It is a relatively simple game that can be built using any programming language.

Here are the steps involved in building a Tic Tac Toe game:

1. **Create a grid of cells.** The grid should be three cells wide and three cells tall.
2. **Get input from the players.** The players should take turns entering the coordinates of the cell where they want to place their mark.
3. **Update the grid.** Once the player has entered their coordinates, update the grid to show their mark in that cell.
4. **Check for a winner.** After each move, check to see if either player has three of their marks in a row. If so, that player wins the game.
5. **Repeat steps 2-4 until there is a winner or the game is a draw.**

Here are some additional things that I consider to add in future in this game when building a Tic Tac Toe game:

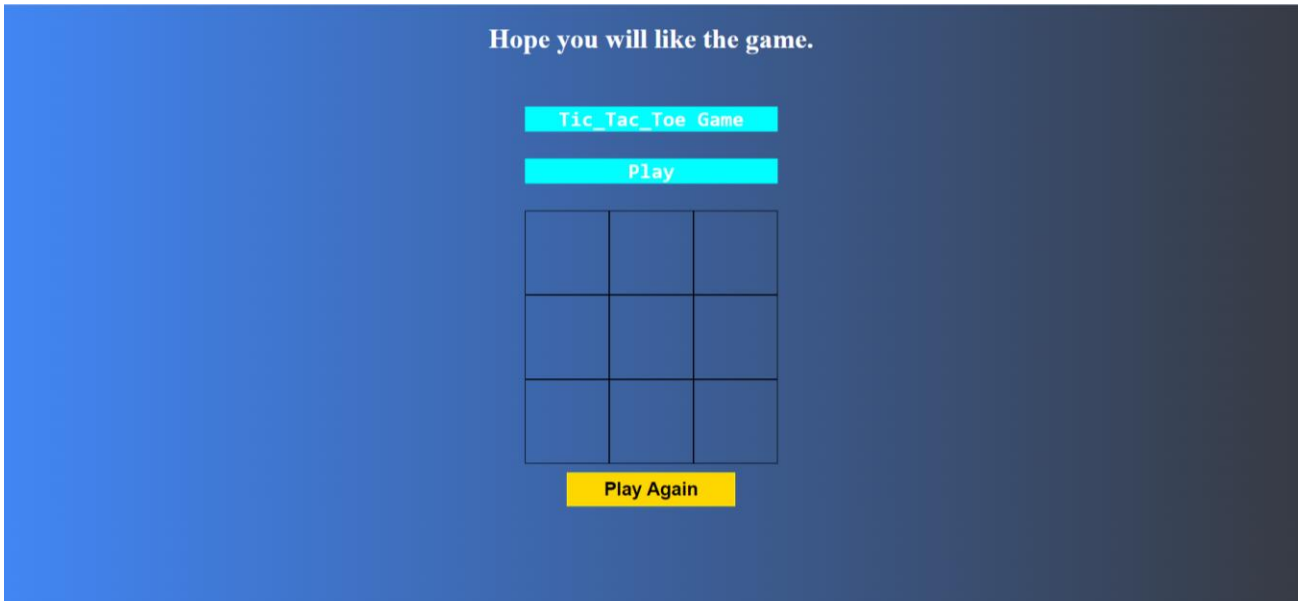
- **Allow the players to choose their marks.** The players should be able to choose whether they want to be X or O.

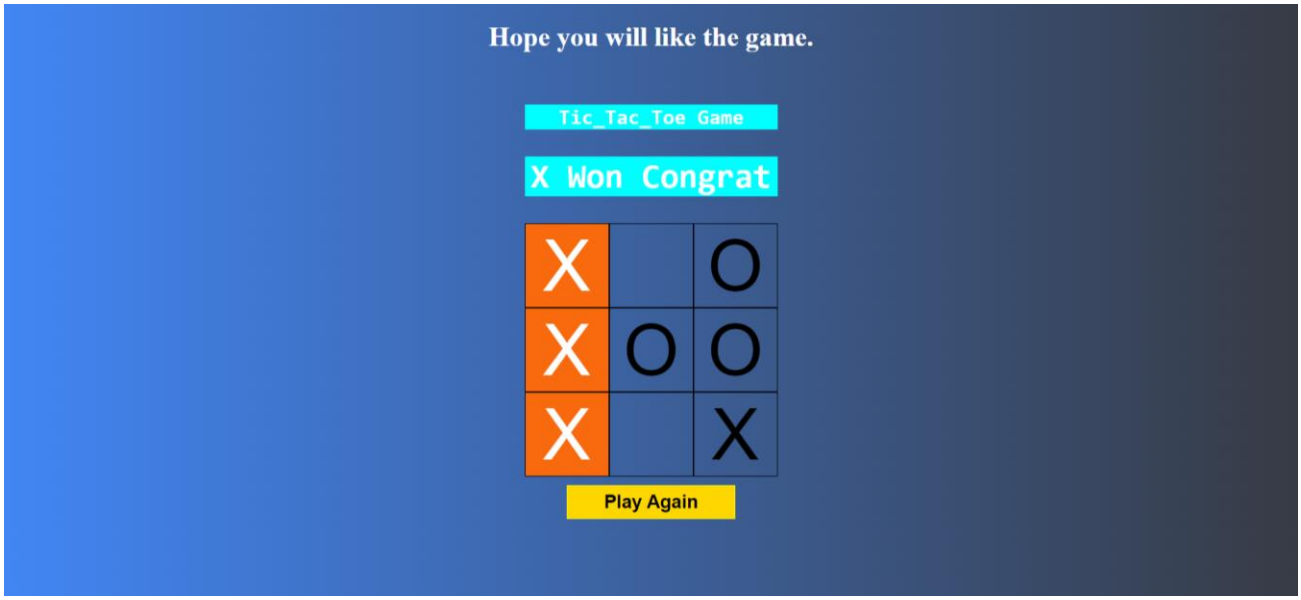
- **Add a computer player.** You can add a computer player to the game that will play against the human player.
- **Add a timer.** You can add a timer to the game so that each player has a limited amount of time to make their move.
- **Add a sound effect.** You can add a sound effect when a player makes a move or when the game is won or drawn.

Building a Tic Tac Toe game is a great way to learn the basics of programming. It is a relatively simple game that can be built using any programming language.

❖ Details of Mini Project

➢ Interfaces Designed



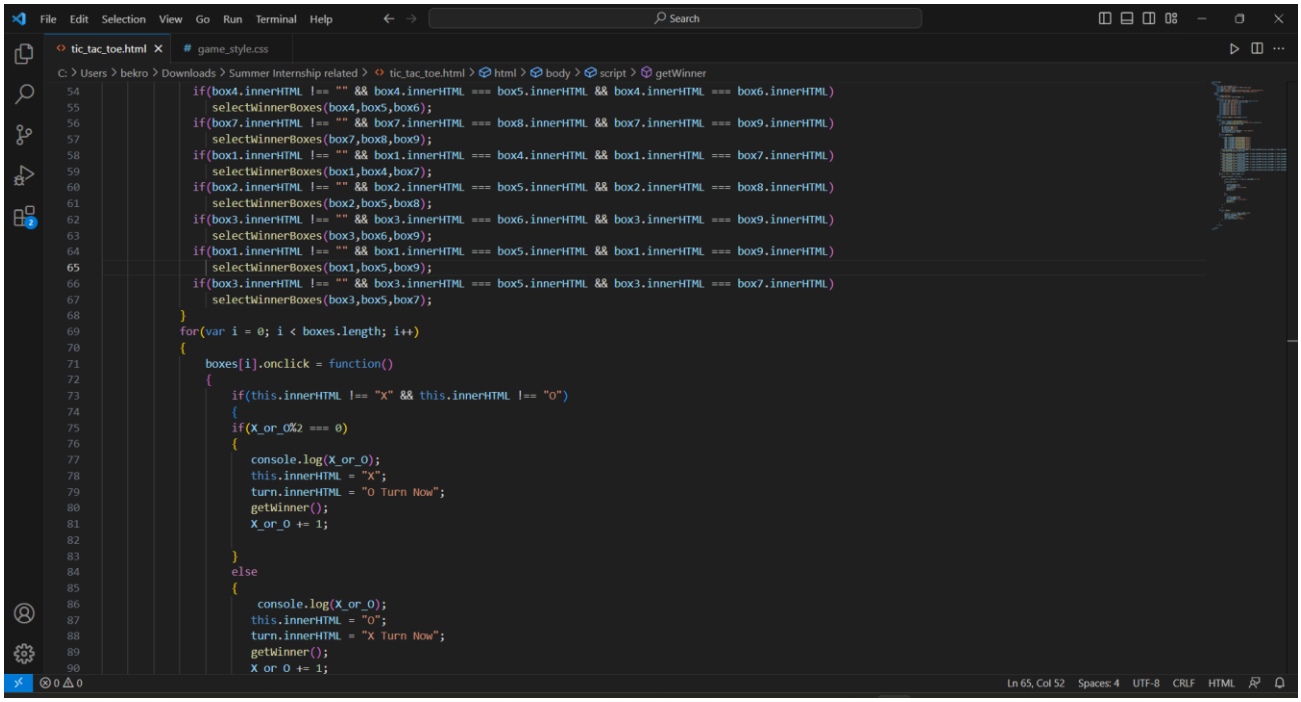


➢ Code snippets

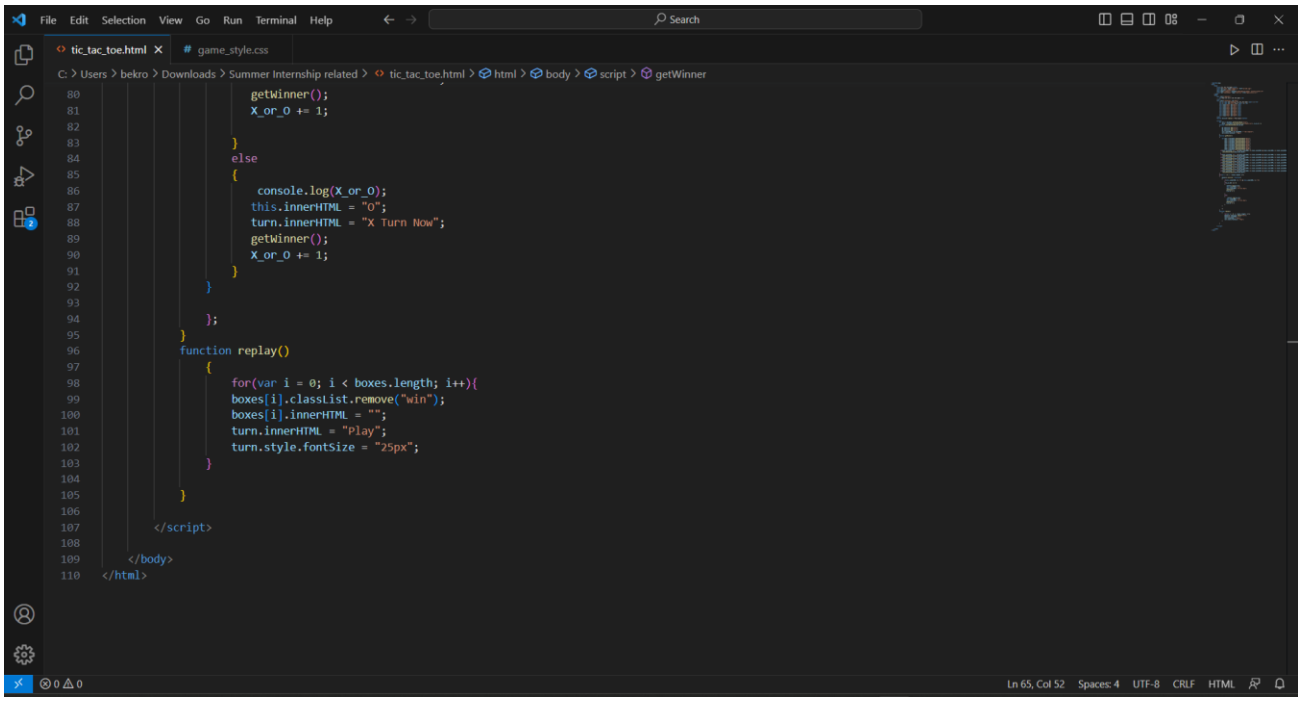
Index.html

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Tic Tac Toe Game</title>
        <link rel="icon" type="image/ico" href="qrcode.jpg">
        <meta charset="windows-1252">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <link rel="stylesheet" type="text/css" href="game_style.css">
    </head>
    <body>
        <div class="upperdiv">
            <h1>Hope you will like the game.</h1>
        </div>
        <div class="container" id="main">
            <h1><p><span id="heading">Tic_Tac_Toe Game</span></p></h1>
            <h1><p><span id="turn">Play</span></p></h1>
            <div class="box" id="box1"></div>
            <div class="box" id="box2"></div>
            <div class="box" id="box3"></div>
            <div class="box" id="box4"></div>
            <div class="box" id="box5"></div>
            <div class="box" id="box6"></div>
            <div class="box" id="box7"></div>
            <div class="box" id="box8"></div>
            <div class="box" id="box9"></div>
        </div>
        <button onclick="replay()">Play Again</button>

        <script>
            var turn = document.getElementById("turn"),
                boxes = document.querySelectorAll("#main div"), X_or_O = 0;
            function selectWinnerBoxes(b1,b2,b3)
            {
                b1.classList.add("win");
                b2.classList.add("win");
                b3.classList.add("win");
                turn.innerHTML = b1.innerHTML + " Won Congrat";
```

```
            function selectWinnerBoxes(b1,b2,b3)
            {
                b1.classList.add("win");
                b2.classList.add("win");
                b3.classList.add("win");
                turn.innerHTML = b1.innerHTML + " Won Congrat";
                turn.style.fontSize = "40px";
            }
            function getWinner()
            {
                var box1 = document.getElementById("box1"),
                    box2 = document.getElementById("box2"),
                    box3 = document.getElementById("box3"),
                    box4 = document.getElementById("box4"),
                    box5 = document.getElementById("box5"),
                    box6 = document.getElementById("box6"),
                    box7 = document.getElementById("box7"),
                    box8 = document.getElementById("box8"),
                    box9 = document.getElementById("box9");
              if(box1.innerHTML !== "" && box1.innerHTML === box2.innerHTML && box1.innerHTML === box3.innerHTML){
                 selectWinnerBoxes(box1,box2,box3);
              }
              if(box4.innerHTML !== "" && box4.innerHTML === box5.innerHTML && box4.innerHTML === box6.innerHTML)
                 selectWinnerBoxes(box4,box5,box6);
              if(box7.innerHTML !== "" && box7.innerHTML === box8.innerHTML && box7.innerHTML === box9.innerHTML)
                 selectWinnerBoxes(box7,box8,box9);
              if(box1.innerHTML !== "" && box1.innerHTML === box4.innerHTML && box1.innerHTML === box7.innerHTML)
                 selectWinnerBoxes(box1,box4,box7);
              if(box2.innerHTML !== "" && box2.innerHTML === box5.innerHTML && box2.innerHTML === box8.innerHTML)
                 selectWinnerBoxes(box2,box5,box8);
              if(box3.innerHTML !== "" && box3.innerHTML === box6.innerHTML && box3.innerHTML === box9.innerHTML)
                 selectWinnerBoxes(box3,box6,box9);
              if(box1.innerHTML !== "" && box1.innerHTML === box5.innerHTML && box1.innerHTML === box9.innerHTML)
                 selectWinnerBoxes(box1,box5,box9);
              if(box3.innerHTML !== "" && box3.innerHTML === box5.innerHTML && box3.innerHTML === box7.innerHTML)
                 selectWinnerBoxes(box3,box5,box7);
            }
```

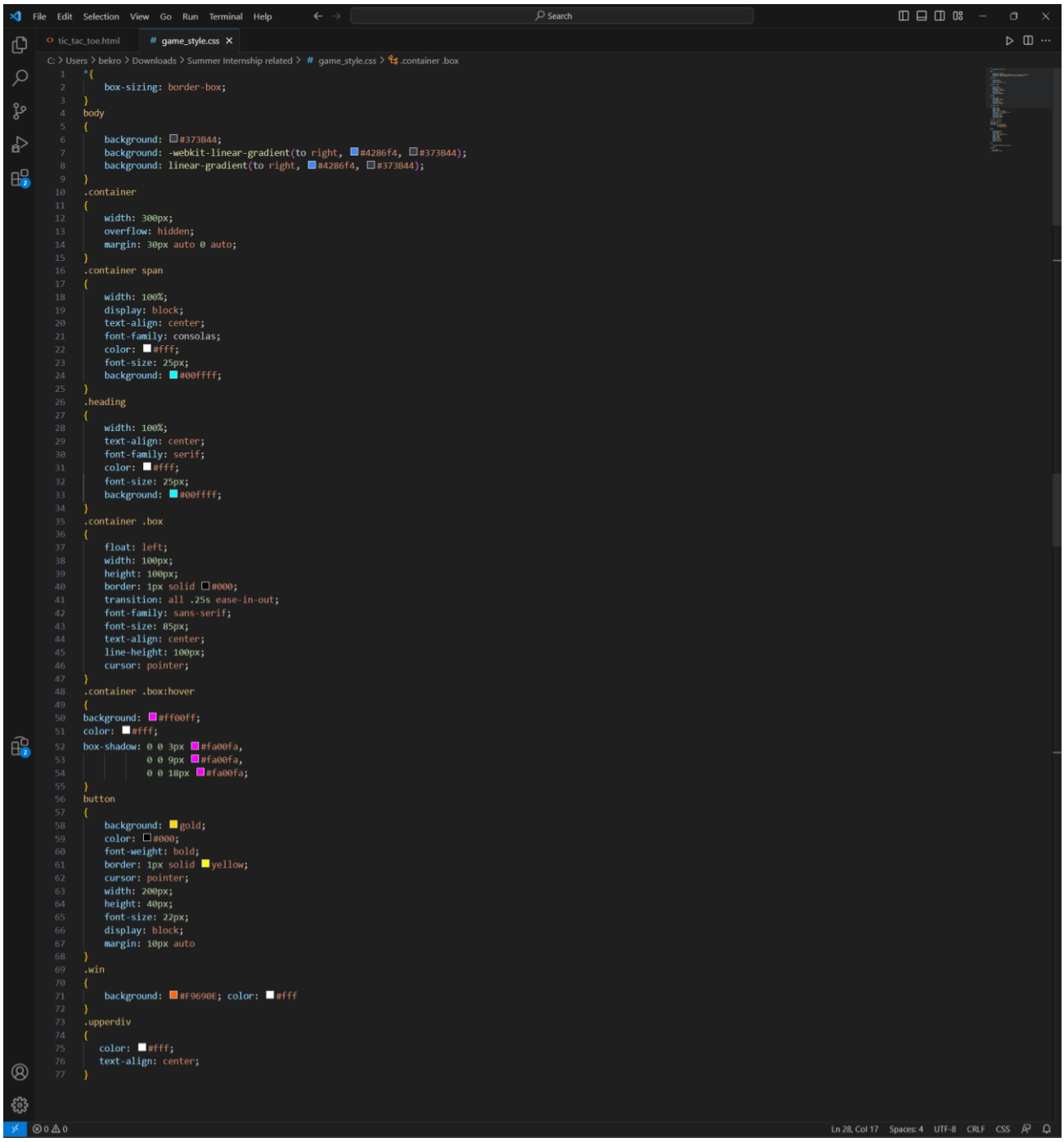


```
            if(box4.innerHTML !== "" && box4.innerHTML === box5.innerHTML && box4.innerHTML === box6.innerHTML)
               selectWinnerBoxes(box4,box5,box6);
            if(box7.innerHTML !== "" && box7.innerHTML === box8.innerHTML && box7.innerHTML === box9.innerHTML)
               selectWinnerBoxes(box7,box8,box9);
            if(box1.innerHTML !== "" && box1.innerHTML === box4.innerHTML && box1.innerHTML === box7.innerHTML)
               selectWinnerBoxes(box1,box4,box7);
            if(box2.innerHTML !== "" && box2.innerHTML === box5.innerHTML && box2.innerHTML === box8.innerHTML)
               selectWinnerBoxes(box2,box5,box8);
            if(box3.innerHTML !== "" && box3.innerHTML === box6.innerHTML && box3.innerHTML === box9.innerHTML)
               selectWinnerBoxes(box3,box6,box9);
            if(box1.innerHTML !== "" && box1.innerHTML === box5.innerHTML && box1.innerHTML === box9.innerHTML)
               selectWinnerBoxes(box1,box5,box9);
            if(box3.innerHTML !== "" && box3.innerHTML === box5.innerHTML && box3.innerHTML === box7.innerHTML)
               selectWinnerBoxes(box3,box5,box7);
            }
            for(var i = 0; i < boxes.length; i++)
            {
               boxes[i].onclick = function()
               {
                  if(this.innerHTML !== "X" && this.innerHTML !== "O")
                  {
                  if(X_or_O%2 === 0)
                  {
                     console.log(X_or_O);
                     this.innerHTML = "X";
                     turn.innerHTML = "O Turn Now";
                     getWinner();
                     X_or_O += 1;

                  }
                  else
                  {
                      console.log(X_or_O);
                     this.innerHTML = "O";
                     turn.innerHTML = "X Turn Now";
                     getWinner();
                     X_or_O += 1;
```



```
                     getWinner();
                     X_or_O += 1;

                  }
                  else
                  {
                      console.log(X_or_O);
                     this.innerHTML = "O";
                     turn.innerHTML = "X Turn Now";
                     getWinner();
                     X_or_O += 1;
                  }
               }

               };
            }
            function replay()
               {
                  for(var i = 0; i < boxes.length; i++){
                  boxes[i].classList.remove("win");
                  boxes[i].innerHTML = "";
                  turn.innerHTML = "Play";
                  turn.style.fontSize = "25px";
               }

            }
         </script>

      </body>
   </html>
```

Style.css


File Edit Selection View Go Run Terminal Help
Search
tic_tac_toe.html
game_style.css
C: > Users > bekro > Downloads > Summer Internship related > # game_style.css > .container .box
*{
box-sizing: border-box;
}
body
{
background: #373B44;
background: -webkit-linear-gradient(to right, #4286f4, #373B44);
background: linear-gradient(to right, #4286f4, #373B44);
}
.container
{
width: 300px;
overflow: hidden;
margin: 30px auto 0 auto;
}
.container span
{
width: 100%;
display: block;
text-align: center;
font-family: consolas;
color: #fff;
font-size: 25px;
background: #00ffff;
}
.heading
{
width: 100%;
text-align: center;
font-family: serif;
color: #fff;
font-size: 25px;
background: #00ffff;
}
.container .box
{
float: left;
width: 100px;
height: 100px;
border: 1px solid #000;
transition: all .25s ease-in-out;
font-family: sans-serif;
font-size: 85px;
text-align: center;
line-height: 100px;
cursor: pointer;
}
.container .box:hover
{
background: #ff00ff;
color: #fff;
box-shadow: 0 0 3px #fa00fa,
0 0 9px #fa00fa,
0 0 18px #fa00fa;
}
button
{
background: gold;
color: #000;
font-weight: bold;
border: 1px solid yellow;
cursor: pointer;
width: 200px;
height: 40px;
font-size: 22px;
display: block;
margin: 10px auto
}
.win
{
background: #F9690E; color: #fff
}
.upperdiv
{
color: #fff;
text-align: center;
}
Ln 28, Col 17 Spaces: 4 UTF-8 CRLF CSS

❖ Grade sheet of assignments/ marks card from the MOOC

➢ Introduction to Front end Development

Congratulations on getting your certificate!

You completed this course on August 15, 2023

Grade received: 98%

Share Certificate

Download certificate

➢ Programming with JavaScript

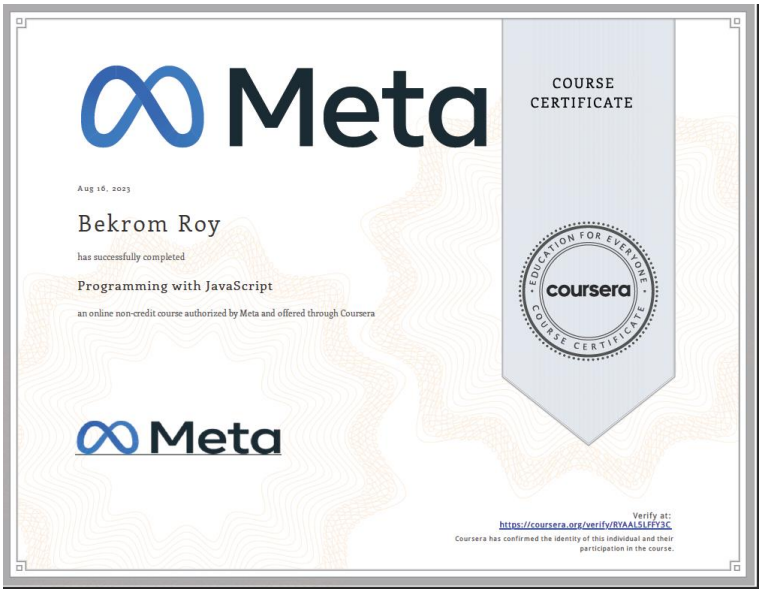
Congratulations on getting your certificate!

You completed this course on August 16, 2023

Grade received: 95.46%

Share Certificate

Download certificate



❖ Bibliography or References

- ✓ **https://www.coursera.org/learn/programming-with-javascript/**
- ✓ **https://www.coursera.org/learn/introduction-to-front-end-development/**
- ✓ **https://www.geeksforgeeks.org/simple-tic-tac-toe-game-using-javascript/**
- ✓ **https://www.youtube.com/watch?v=sSLGP-_2gOI**
- ✓ **https://www.tutorialspoint.com/python-implementation-of-automatic-tic-tac-toe-game-using-random-number**
- ✓ **https://github.com/**