HMI EXPERIMENT 1

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Grade :	

B.1 Tools used to develop application:

Languages Used:
- ➢ HTML
  - HTML stands for HyperText Markup Language, which is the most widely used language on Web to develop web pages.
  - HTML is being widely used to format web pages with the help of different tags available in HTML language.

- ➢ CSS
  - Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.
  - CSS is a MUST for students and working professionals to become great Software Engineers especially when they are working in Web Development Domain.

- ➢ Bootstrap 5
  - Bootstrap is the most popular front-end framework in recent times.
  - Bootstrap 5 is the newest version of Bootstrap; with new components, a faster stylesheet, and more responsiveness.
  - It is a sleek, intuitive, and powerful mobile first front-end framework for faster and easier web development. It uses HTML, CSS, and Javascript.

- ➢ JavaScript
  - JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications.
  - It is complementary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform.

B.2 Choice of User Interface Elements:

- ➢ <nav>
  - - The <nav> element in HTML is used to set navigation links in an HTML document. This tag was introduced in HTML5.
  - - Browsers, such as screen readers for disabled users, can use this element to determine whether to omit the initial rendering of this content.

- ➢ <video>
  - - The <video> tag is used to embed video content in a document, such as a movie clip or other video streams.
  - - The <video> tag contains one or more <source> tags with different video sources. The browser will choose the first source it supports.
  - - There are three supported video formats in HTML: MP4, WebM, and OGG.

- ➢ <img>
  - - The <img> tag is used to embed an image in an HTML page.
  - - Images are linked to web pages. The <img> tag creates a holding space for the referenced image.
  - - The <img> tag has two required attributes:
    - ● src - Specifies the path to the image
    - ● alt - Specifies an alternate text for the image, if the image for some reason cannot be displayed

- ➢ <input type="radio">
  - - The <input type="radio"> defines a radio button.
  - - Radio buttons are normally presented in radio groups (a collection of radio buttons describing a set of related options).
  - - Only one radio button in a group can be selected at the same time.

- ➢ <button>
  - - The form attribute specifies the form the button belongs to.
  - - The value of this attribute must be equal to the id attribute of an <form> element in the same document.

B.3 Sample Source code of the application:

__index.html__

```html
<!DOCTYPE html>
<html>
<head>
        <title>Which picture graph is correct?</title>
        <link rel="stylesheet" type="text/css"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css">
        <link rel="stylesheet" type="text/css" href="index_css.css">
</head>
<body>
<nav id="mainNav" class="navbar navbar-dark navbar-expand-md fixed-top">
        <a class="navbar-brand" href="#">GRAPHICZ</a>
        <button class="navbar-toggler" data-toggle="collapse" data-target="#navLinks"
aria-Label="Toggle Navigation">
                <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navLinks">
                <ul class="navbar-nav">
                        <li class="nav-item">
                                <a href="index.html" class="nav-link">HOME</a>
                        </li>
                        <li class="nav-item">
                                <a href="page1.html" class="nav-link">EXERCISE</a>
                        </li>
                </ul>
        </div>
</nav>

<div>
        <video src="Fruits.mp4" muted loop autoplay id="myVideo"></video>
</div>
<div class="container">
    <div class="center">
        <a href="page1.html">
                <button class="myBtn">
                        <svg width="250px" height="75px" viewBox="0 0 250 75"
class="border">
                        <polyline points="249,1 249,74 1,74 1,1 249,1" class="bg-line" />
                        <polyline points="249,1 249,74 1,74 1,1 249,1" class="hl-line" />
                        </svg>
                <span>START</span>
                </button>
        </a>
    </div>
  </div>

</body>
</html>
```

index_css.css

```css
body{
        background: #f5d9d5;
        font-family: "Nunito",sans-serif;
}

.myBtn {
  width: 250px;
  height: 75px;
  cursor: pointer;
  background: transparent;
  border: 1px solid #91C9FF;
  outline: none;
  transition: 1s ease-in-out;
}

svg {
  position: absolute;
  left: 0;
  top: 0;
  fill: none;
  stroke: #fff;
  stroke-dasharray: 150 480;
  stroke-dashoffset: 150;
  transition: 1s ease-in-out;
}

.myBtn:hover {
  transition: 1s ease-in-out;
  background: mediumseagreen;
}

.myBtn:hover svg {
  stroke-dashoffset: -480;
}

.myBtn span {
  color: white;
  font-size: 18px;
  font-weight: 100;
}


#myVideo {
  position: fixed;
  right: 0;
  bottom: 0;
  min-width: 100%;
  min-height: 100%;
}
```

page1.html

```html
<!DOCTYPE html>
<html>
<head>
        <title>Which picture graph is correct?</title>
        <link rel="stylesheet" type="text/css"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css">
        <link rel="stylesheet" type="text/css" href="page1_css.css">
        <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
        <script src="page1.js"></script>
</head>
<body>
<header>
  <span class="text1">WHICH PICTURE GRAPH IS CORRECT?</span>
</header>

<div>
  <span class="text2">Raj went to the store. He brought some dounuts and cookies for
his friends.</span>
  <div>
        <img class="img1" src="img1.jpg">
  </div>
</div>

<form action="#" method="post" name="my-form" id="my-form">
<section>
        <span class="text2">Which picture graph shows the right number of each
treat?</span>
        <br>
        <label>
                <input type="radio" name="test" value="1">
                <img src="img2.jpg">
        </label>
        <label>
                <input type="radio" name="test" value="2">
                <img src="img3.jpg">
        </label>
        <footer>
                <input class="asub" type="submit" value="Submit" />
        </footer>
</section>
</form>
<aside>
        <div id="result">
        <img class="gif"
src="https://c.tenor.com/7YPB4FH3_IMAAAAi/tkthao219-bubududu.gif">
        </div>
</aside>

</body>
</html>
```

page1_css.css

```css
.asub {
  margin: 50px;
  transform: translate(-50%, -50%);
  background:green;
  color:#fff;
  border-radius:20px;
  box-shadow:5px5px5px#eee;
  font-size: 1.5em;
  display: inline-block;
  font-family: Montserrat;
  text-transform: uppercase;
  padding: 0.5em 2em;
  border: 3px solid #8fdbb5;
  transition: 0.02s 0.2s cubic-bezier(0.1, 0, 0.1, 1);
}

.asub:hover {
    background:#016ABC;
    color:#fff;
    border:1pxsolid#eee;
    border-radius:20px;
    box-shadow:5px5px5px#eee;
    text-shadow:none;
}
input{
  cursor: pointer;
}

.gif{
  width: 250px;
  height: 300px;
  object-fit: cover;
  margin: 50px;
}
```

page1.js

```js
var lastScrollTop; // This Varibale will store the top position

navbar = document.getElementById('mainNav'); // Get The NavBar

window.addEventListener('scroll',function(){
 //on every scroll this funtion will be called

  var scrollTop = window.pageYOffset || document.documentElement.scrollTop;
  //This line will get the location on scroll

  if(scrollTop > lastScrollTop){ //if it will be greater than the previous
    mainNav.style.top='-50px';
    //set the value to the negetive of height of navbar
```

```
        }

    else{
        mainNav.style.top='0';
    }

    lastScrollTop = scrollTop; //New Position Stored
});

$(document).ready(function() {
    $("#my-form").submit(function(e) {
        e.preventDefault();
        var scoreCounter = 0, newPage;
        $('input[type=radio]').each(function () {
            if ($(this).prop('checked')) { scoreCounter += parseInt($(this).val()); }
        });
        if (scoreCounter == 1) { newPage = "page2.html"; }
        else if (scoreCounter == 2) { newPage = "page3.html"; }
        else { newPage = "index.html"; }

        window.location = newPage;
    });
});
```

B.4 User Interface Designs:
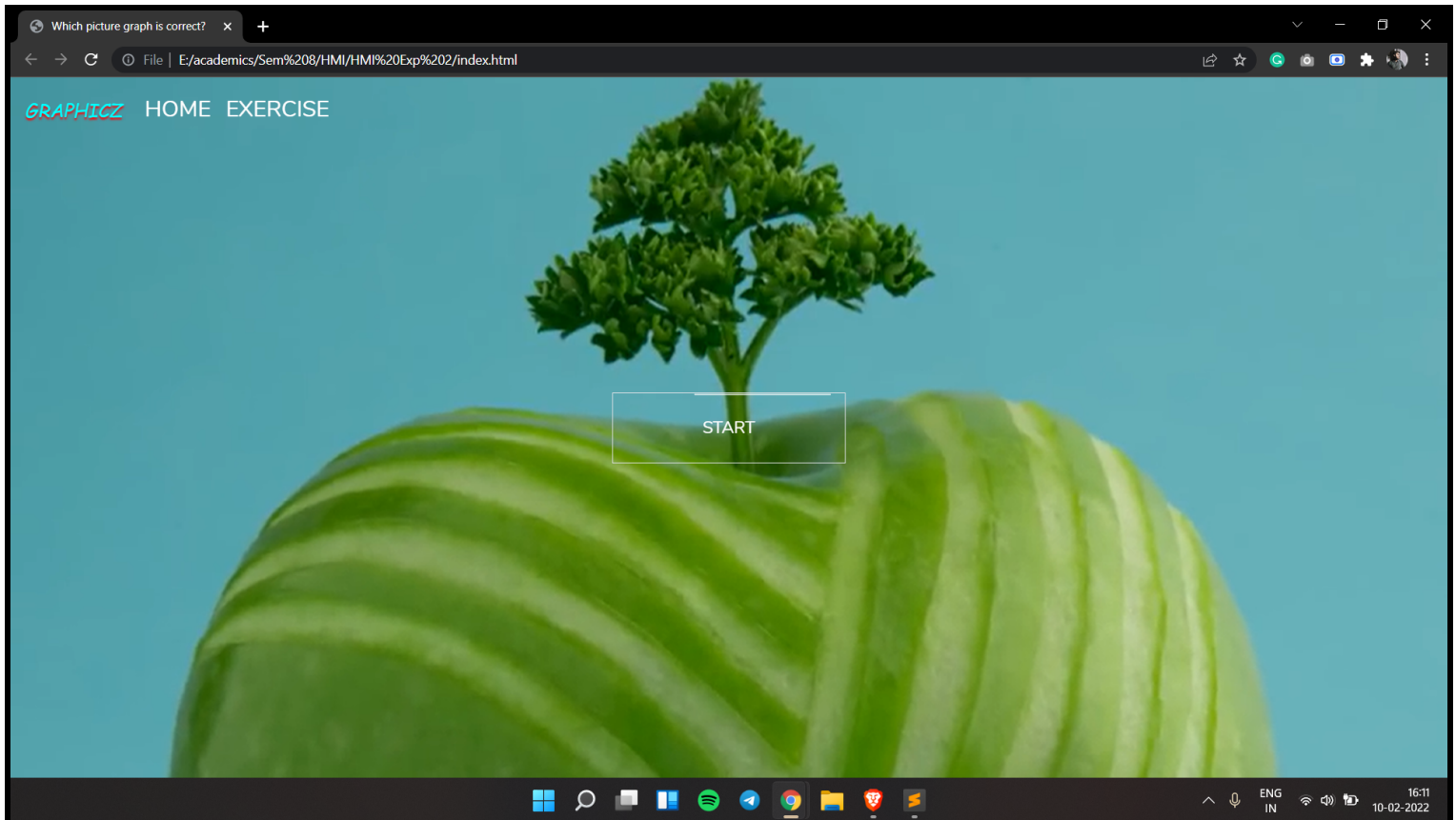
GRAPHICZ   HOME   EXERCISE

WHICH PICTURE GRAPH IS CORRECT?

Raj went to the store. He brought some dounuts and cookies for his friends.

Which picture graph shows the right number of each treat?

Treats		
Donuts	🍩	🍩	🍩
Cookies	🍪	🍪	🍪

Treats		
Donuts	🍩	🍩	
Cookies	🍪	🍪	🍪	🍪

wait..

SUBMIT

GRAPHICZ   HOME   EXERCISE

file:///E:/academics/Sem 8/HMI/HMI Exp 2/page1.html
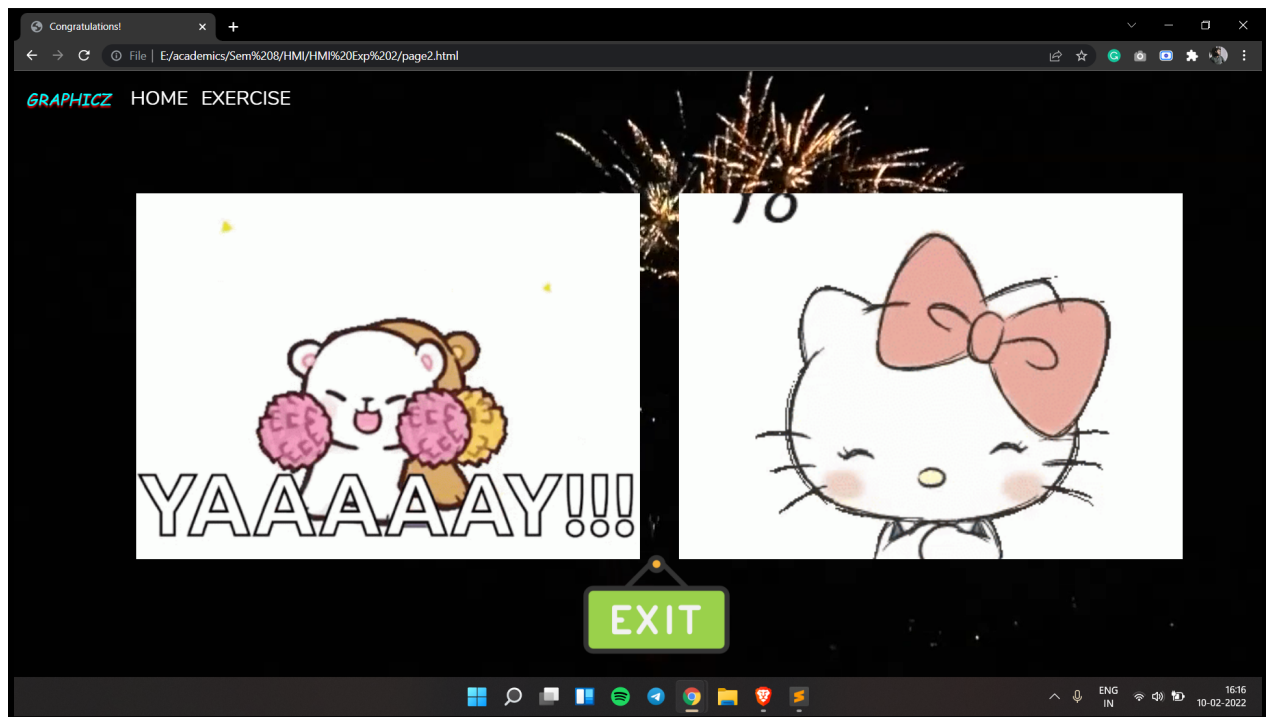
B.5 Conclusion:

Hence we've successfully created a web-based Mathematical application for kids of the age of 4 to 7 years.