

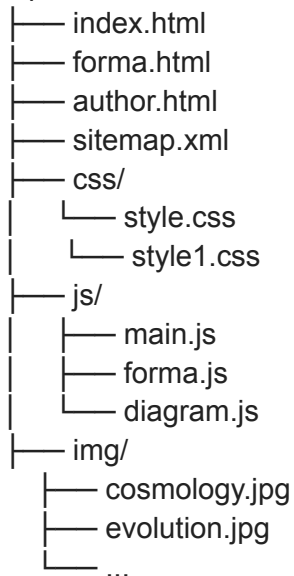
Visoka ICT Skola 2025

# Dokumentacija

Web Programiranje 1

## Struktura

/ExploreScience



## Sadržaj po fajlovima

### 1. index.html

Glavna stranica (Home) - Kontejneri za kartice, heder, footer i modali, kartice modala i animacije u njima. Link ka formi za objavljivanje rezultata eksperimenta.

### 2. forma.html

Stranica koja sadrži formu za eksperiment. Validacija je u [main.js](#). Regexi za svaki element.

### 3.author.html

Stranica koja sadrži kratak opis autora plus link ka dokumentaciji.

### 4.Sitemap.xml

Sitemap za SEO.

### 5. style1.css

flex mode layout. ovaj dodatni fajl postoji jer sam planirao da postoji još jedna stranica "test equations" gde bi korisnici unosili razne podatke u polja i program bi prikazivao animirana rešenja tih jednačina. Nisam stigao da uradim ovu stranicu, ali sam planirao odvojen css zbog preglednosti. Iskoristio sam ga za formu.

### 6. style.css

flex mode. ovde je ceo css. I responsive na dnu. Flex i relativne vrednosti u formulama su omogućili da mi ne treba previse media za responsive.

## 7. JS

### 7.1. - [Main.js](#)

#### 7.1.1. Inicijalizacija sadržaja

Definisana kolekcija topics ("const topics") – niz objekata gde svako ima:

title – naslov,

description – opis,

moreInfo – dodatni info,

img – slika za prikaz na kartici,

bglmg – pozadinska slika za modal,

diagramType – tip dijagrama za canvas

#### 7.1.2. Generisanje kartica (glossary cards)

Za svaku temu kreira se div element sa klasom glossary\_card.

U karticu se ubacuju dinamički: slika, naslov i kratak opis.

Klik otvara modalni prozor.

#### 7.1.3. Modalni prozor

Kada se klikne, dinamički se kreira HTML za modal koji ima:

pozadinsku sliku,

naslov,

paragrafe,

<canvas> element za crtanje.

#### 7.1.4, Dijagram

Funkcija `drawDiagram()` se poziva sa param `diagramType` kako bi iscrtao odgovarajući visual.

`bigBang` - ova animacija crta krug koji se siri. predstavlja ekspanziju vreme prostora.

`evol` - crta liniju koja se grana. Kao vrste po teoriji evolucije.

`elektron` - crta nukleus i elektronovu orbitu oko nukleusa. Po danasnoj kvantnoj mehanici, ovaj model prikaza je zastareo. Elektronske orbite se ovih dana vizuelno predstavljaju kao oblak potencijala oko nukleusa. Ali, crtati ovu animaciju je bilo pretesko, stoga stari model vodonika

`superPozicija` - crta linije koje treba da predstavljaju superpoziciju dve cestice. Nije ispalo tacno kako treba. Linije trebaju da nestanu nakon sto se spoje prvi put i onda ponovo da se odvoje i tako dalje. Ali ovo je bilo veoma komplikovano za postavljanje.\

`srce` - ovo je animacija koja crta srce i pulsira ga. Trial and error sa podesavanjem otkucaja, baze i amplitude. Na kraju su ovi brojevi ispali pristojni:

```
const otkucaj = 0.01; // manji brojevi, brze kuca
const baza = 3;      // baza ("Minimalno" srce)
const amplituda = 1.2; // amp (sinusna faza, "maksimalno" srce)
```

```
const faktor = Math.pow(Math.sin(t * otkucaj * Math.PI), 2);
const skala = baza + amplituda * faktor;
```

`pi` - ispisuje decimale PI jednu po jednu.

`ctx.fillText(text.slice(0, i1), 10, canvas.height / 2);` // **klasican .slice. ako je slice indeks manj od duzine teksta, povecaj indeks, pozovi writePi posle 200 ms i u krug.**

```
    if (i1 < text.length) {
        i1++;
        setTimeout(writePi, 200);
    }
}
```

### 7.1.11. Definisanje kontejnera

```
const container = document.getElementById('glossary_container');
const modal = document.getElementById('modal_container');
```

### 7.1.12. kartica za svakog

```
topics.forEach(topic => {
  const card = document.createElement('div');
  card.className = 'glossary_card';
```

```
  const img = document.createElement('img');
  img.src = topic.img;
  img.alt = topic.title;
  card.appendChild(img);
```

```
  const h3 = document.createElement('h3');
  h3.textContent = topic.title;
  card.appendChild(h3);
```

```
  const p = document.createElement('p');
  p.textContent = topic.description;
  card.appendChild(p);
```

### 7.1.13. otvaranje modala

```
card.addEventListener('click', () => {
  const paragraphs = topic.moreInfo.map(p => `

${p}

`).join("");
  modal.innerHTML = `
    <div class="modal_overlay"></div>
    <div class="modal_content" style="background-image: url('${topic.bgImg}');">
      <span class="modal_close">&times;</span>
      <div class="modal_text_overlay">
        <h2>${topic.title}</h2>
        ${paragraphs}
      </div>
      <canvas class="modal_diagram"></canvas>
    </div>
  `;
  modal.classList.add('show');
```

### 7.1.14. Zatvaranje modala

```
modal.querySelector('.modal_close').addEventListener('click', () =>
modal.classList.remove('show'));
modal.querySelector('.modal_overlay').addEventListener('click', () =>
modal.classList.remove('show'));
```

### 7.1.15. Priprema tačaka za dijagram i poziv

```
const diagramPoints = [
  { x: 0.05, y: 0.8 }, { x: 0.25, y: 0.4 }, { x: 0.5, y: 0.6 }, { x: 0.75, y: 0.3 }, { x: 0.95, y:
0.5 }
];

drawDiagram('.modal_diagram', topic.diagramType);
```

```
});
```

### 7.1.16. Ubacivanje kartice

```
    container.appendChild(card);  
  });
```

```
    const navToggle = document.querySelector('.nav_toggle');  
    const navList = document.querySelector('.nav_list');
```

#### Otvori/zatvori burger

```
    navToggle.addEventListener('click', () => {  
      navList.classList.toggle('show');  
    });  
  });
```

CEO KOD:

index.html

```
<!DOCTYPE html>  
<html lang="en">  
  
<head>  
  <meta charset="UTF-8">  
  <meta name="viewport" content="width=device-width,  
initial-scale=1.0">  
  <title>Beauty of Modern Science – Home</title>  
  <meta name="description"  
    content="Glossary of sciences: cosmology, evolution, quantum  
mechanics, chemistry, mathematics, medicine">  
  <link rel="stylesheet" href="css/style.css">  
  <link  
href="https://fonts.googleapis.com/css2?family=Roboto:wght@400;500;700&  
display=swap" rel="stylesheet">  
  <link rel="icon" href="img/ikonica.jpg" type="image/x-icon">  
  
</head>  
  
<body>  
  <header>  
    <div class="container header_inner">  
      <h1 class="site_title">Science Glossary</h1>
```

```

        <nav aria-label="Main navigation">
            <button class="nav_toggle">&#9776;</button>
            <ul class="nav_list">
                <li><a href="index.html">Home</a></li>
                <li><a href="forma.html">Experiment Form</a></li>
                <li><a href="author.html">Author /
Documentation</a></li>
            </ul>
        </nav>
    </div>
</header>

<section id="welcome_stil" class="container">
    <h2>Welcome!</h2>
    <p>Advancement of society and science seem to go hand in hand.
Here are some that I find most fascinating. Many
        often
        misunderstood.</p>
</section>

<main class="container">
    <h2 class="sciences_title">Sciences</h2>
    <div id="glossary_container" class="grid"></div>
</main>

<div id="modal_container"></div>

<section id="forma_intro" class="intro-section">
    <div class="intro_container">
        <h2>Submit Your Experiment Data</h2>
        <p>We want your input! Share your experiment measurements
and observations with us through our online form.
            Click the button below to get started.</p>
        <a href="forma.html" class="btn-experiment">Go to Form</a>
    </div>
</section>

<footer class="container">
    <p>&copy; 2025 Marko Pesic – Beauty of Modern Science</p>

    <div class="footers">

```

```

        <a href="dokumentacija.pdf"
target="_blank">Dokumentacija</a>
        <a href="savJS.txt" target="_blank">JS</a>
        <a href="savHTML.txt" target="_blank">HTML</a>
        <a href="savCSS.txt" target="_blank">CSS</a>
        <a href="sitemap.xml" target="_blank">Sitemap</a>
    </div>

</footer>

<script src="https://code.jquery.com/jquery-3.7.1.min.js"
        integrity="sha256-/JqT3SQfawRcv/BIHPThkBs0OEvtfFmqPF/1YI/Cxo="
crossorigin="anonymous"></script>
    <script src="js/diagram.js"></script>
    <script src="js/main.js"></script>
</body>

</html>

```

author.html

```

<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>About the Author</title>
    <link rel="stylesheet" href="css/style.css">
    <link rel="icon" href="img/ikonica.jpg" type="image/x-icon">
</head>

<body>
    <a href="index.html" class="back">← Take Me Back</a>
    <div class="container">
        <div class="author-container">
            <h2>About the Author</h2>
            <h3>Marko Pesic, 86/23, IT</h3>
            
            <p>

```



```

        I am a web developer, programmer, and science
enthusiast.

        Passionate about making scientific knowledge
accessible, I create interactive tools, visualizations, and
        educational content for learners of all ages.
    </p>
    <p>
        With experience in web development, JavaScript, C#, and
data visualization, I combine programming with
        love for science to produce projects that are both
informative and visually engaging.
    </p>
    <p>
        You can reach out via email at <a
href="mailto:marko.pesic.86.23@ict.edu.rs">marko.pesic.86.23@ict.edu.rs
</a> or explore more projects
        through this website.
    </p>
    <a href="index.html" class="btn-experiment">Back to
Home</a>
</div>
</div>
<footer class="container">
    <p>&copy; 2025 Marko Pesic – Beauty of Modern Science</p>

    <div class="footers">
        <a href="dokumentacija.pdf"
target="_blank">Dokumentacija</a>
        <a href="savJS.txt" target="_blank">JS</a>
        <a href="savHTML.txt" target="_blank">HTML</a>
        <a href="savCSS.txt" target="_blank">CSS</a>
        <a href="sitemap.xml" target="_blank">Sitemap</a>
    </div>

</footer>

</body>

</html>

```

forma.html

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">
  <title>Science Form Validation</title>
  <link rel="stylesheet" href="css/style1.css">
  <link rel="icon" href="img/ikonica.jpg" type="image/x-icon">
</head>

<body>
  <a href="index.html" class="back">← Take Me Back</a>
  <div class="forma-container">
    <h2>Experiment Data Submission</h2>

    <form id="scienceForma">
      <label for="name">Name:</label>
      <input type="text" id="name" name="name" placeholder="Your
Name" required>

      <label for="email">Email:</label>
      <input type="text" id="email" name="email"
placeholder="example@domain.com" required>

      <label for="date">Date of Experiment:</label>
      <input type="date" id="date" name="date" required>

      <label for="value">Measurement (numeric + optional
unit):</label>
      <input type="text" id="value" name="value"
placeholder="e.g., 23.5 cm" required>

      <label for="notes">Notes (optional):</label>
      <textarea id="notes" name="notes" maxlength="200"
placeholder="Optional notes..."></textarea>

      <button type="submit">Submit</button>
      <div class="success" id="bravo"></div>
    </form>
  </div>
```

```

<footer class="container">
    <p>&copy; 2025 Marko Pesic – Beauty of Modern Science</p>

    <div class="footers">
        <a href="dokumentacija.pdf"
target="_blank">Dokumentacija</a>
        <a href="savJS.txt" target="_blank">JS</a>
        <a href="savHTML.txt" target="_blank">HTML</a>
        <a href="savCSS.txt" target="_blank">CSS</a>
        <a href="sitemap.xml" target="_blank">Sitemap</a>
    </div>

</footer>

<script src="https://code.jquery.com/jquery-3.7.1.min.js"></script>
<script src="js/forma.js"></script>

</body>

</html>

```

## CSS

### style.css

```

* {
    box-sizing: border-box;
    margin: 0;
    padding: 0;
}

/* Body slika */
body {
    margin: 0;
    font-family: 'Roboto', Arial, sans-serif;
    line-height: 1.5;
    background: url('../img/bg.jpg') no-repeat center center fixed;
    background-size: cover;
    color: #fff;
}

/* Cont */
.container {
    width: 90%;
}

```

```
    max-width: 1200px;
    margin: 0 auto;
}

/* Head */
header {
    background: rgba(0, 0, 0, 0.75);
    padding: 0.75rem 0;
}

.header_inner {
    display: flex;
    align-items: center;
    justify-content: space-between;
    gap: 1rem;
    padding: 0 0.25rem;
}

.site_title {
    font-size: 1.35rem;
    font-weight: 700;
    margin: 0;
}

/* Nav */
.nav_list {
    list-style: none;
    display: flex;
    gap: 1rem;
    align-items: center;
}

.nav_list li a {
    color: #fff;
    text-decoration: none;
    font-weight: 600;
    padding: 0.25rem 0.5rem;
    border-radius: 6px;
}

.nav_list li a:hover,
.nav_list li a:focus {
    background: rgba(255, 255, 255, 0.06);
}
```

```
        color: #00aaff;
    }

/* Hamburger */
.nav_toggle {
    display: none;
    font-size: 1.6rem;
    background: none;
    border: none;
    color: #fff;
    cursor: pointer;
    padding: 0.25rem 0.5rem;
    line-height: 1;
}

/* Welcome */
#welcome_stil {
    text-align: center;
    padding: 3.25rem 1rem;
    background-color: rgba(0, 0, 0, 0.28);
    margin: 2rem auto;
    width: 100%;
    border-radius: 10px;
}

#welcome_stil h2 {
    font-size: 1.8rem;
    display: block;
    margin: 0 auto;
}

#welcome_stil p {
    max-width: 900px;
    margin: 0 auto;
    font-size: 1rem;
    color: #f1f1f1;
}

/* "Sciences" */
.sciences_title {
    text-align: center;
    color: #ffffff;
    font-size: 2rem;
}
```

```
margin: 1.5rem 0 0.75rem;
font-weight: 700;
}

/* Grid + cards */
.grid {
  display: flex;
  flex-wrap: wrap;
  justify-content: center;
  gap: 1.25rem;
  padding: 1rem 0 2rem;
}

.glossary_card {
  background-color: rgba(0, 0, 0, 0.55);
  border-radius: 10px;
  overflow: hidden;
  width: 15rem;
  min-height: 18rem;
  cursor: pointer;
  transition: transform 0.25s ease, box-shadow 0.25s ease;
  flex-shrink: 0;
  display: flex;
  flex-direction: column;
}

.glossary_card:hover {
  transform: translateY(-6px) scale(1.03);
  box-shadow: 0 14px 30px rgba(0, 0, 0, 0.45);
}

.glossary_card img {
  width: 100%;
  height: 9rem;
  object-fit: cover;
  display: block;
}

.glossary_card h3 {
  text-align: center;
  margin: 0.65rem 0 0.25rem;
  font-size: 1.05rem;
  color: #fff;
}
```

```
padding: 0 0.5rem;
}

.glossary_card p {
padding: 0 0.75rem 0.9rem;
margin-top: auto;
font-size: 0.92rem;
color: #eaeaea;
text-align: center;
}

/* Modal */
#modal_container {
position: fixed;
top: 0;
left: 0;
width: 100%;
height: 100%;
z-index: 9999;
display: flex;
align-items: center;
justify-content: center;
opacity: 0;
pointer-events: none;
transition: opacity 0.25s ease;
}

#modal_container.show {
opacity: 1;
pointer-events: auto;
}

.modal_overlay {
position: absolute;
inset: 0;
background: rgba(0, 0, 0, 0.72);
}

.modal_content {
position: relative;
z-index: 2;
width: 90%;
max-width: 900px;
```

```

max-height: 88vh;
overflow-y: auto;
background-size: cover;
background-position: center;
border-radius: 12px;
padding: 2.25rem;
box-shadow: 0 20px 50px rgba(0, 0, 0, 0.7);
transform: scale(0.97);
transition: transform 0.28s ease;
}

#modal_container.show .modal_content {
  transform: scale(1);
}

.modal_close {
  position: absolute;
  top: 0.75rem;
  right: 1rem;
  font-size: 1.6rem;
  color: #fff;
  background: rgba(0, 0, 0, 0.3);
  border-radius: 6px;
  padding: 0.15rem 0.45rem;
  cursor: pointer;
}

/* Modal text */
.modal_text_overlay {
  display: block;
  width: 90%;
  max-width: 850px;
  margin: 0 auto 1.5rem auto;
  background-color: rgba(0, 0, 0, 0.65);
  padding: 1.5rem 2rem;
  border-radius: 12px;
  color: #fff;
  line-height: 1.6;
  text-align: center;
}

.modal_text_overlay h2 {
  margin-bottom: 1rem;
}

```



```

    font-size: 1.75rem;
    text-align: center;
    text-shadow: 3px 3px 10px rgba(0, 0, 0, 0.85);
}

.modal_text_overlay p {
    margin-bottom: 1rem;
    font-size: 1rem;
    text-shadow: 2px 2px 8px rgba(0, 0, 0, 0.85);
    color: #f7f7f7;
    text-align: center;
}

/* Diagram */
.modal_diagram {
    display: block;
    width: 90%;
    height: 10rem;
    margin: 1.5rem auto 0 auto;
    background-color: rgba(255, 255, 255, 0.03);
    border: 1px solid rgba(255, 255, 255, 0.08);
    border-radius: 8px;
}

/* Footer */
footer {
    text-align: center;
    padding: 1rem 0;
    background: rgba(0, 0, 0, 0.6);
    margin-top: 1.5rem;
    font-size: 0.95rem;
    color: #f1f1f1;
}

/* Keys */
@keyframes fadeIn {
    from {
        opacity: 0;
        transform: scale(0.95);
    }

    to {

```

```

        opacity: 1;
        transform: scale(1);
    }
}

/* Resp */

/* Tab */
@media (max-width: 1024px) {
    .glossary_card {
        width: 18.5rem;
    }
}

/* Mob */
@media (max-width: 768px) {
    .nav_list {
        display: none;
        position: absolute;
        top: 3.6rem;
        right: 1rem;
        flex-direction: column;
        gap: 0.5rem;
        background: rgba(0, 0, 0, 0.9);
        padding: 0.75rem;
        border-radius: 8px;
        min-width: 160px;
    }

    .nav_list.show {
        display: flex;
    }

    .nav_toggle {
        display: block;
    }

    .glossary_card {
        width: 45%;
    }
}

/* Sm phones */

```

```

@media (max-width: 480px) {
    .glossary_card {
        width: 90%;
    }

    #welcome_stil {
        padding: 2rem 0.75rem;
    }

    .modal_content {
        padding: 1.25rem;
    }

    .modal_diagram {
        height: 8.25rem;
    }
}

/*FORMA*/

#forma_intro {
    max-width: 1000px;
    margin: 50px auto;
    padding: 40px 20px;
    background: rgba(0,0,0,0.6);
    border-radius: 12px;
    text-align: center;
    color: #fffcec;
    box-shadow: 0 0 15px rgba(0,0,0,0.5);
}

#forma_intro h2 {
    margin-bottom: 15px;
    font-size: 28px;
}

#forma_intro p {
    font-size: 16px;
    line-height: 1.5;
    color: #fff;
    margin-bottom: 25px;
}

```

```
}

.btn-experiment {
  display: inline-block;
  padding: 12px 25px;
  background-color: #FFD700;
  color: #000;
  font-weight: bold;
  text-decoration: none;
  border-radius: 6px;
  transition: 0.3s;
}

.btn-experiment:hover {
  background-color: #6e5300;
  color: #000;
}

/*Autor*/

.author-container {
  max-width: 700px;
  margin: 60px auto;
  padding: 40px 25px;
  background: rgba(0,0,0,0.7);
  border-radius: 12px;
  text-align: center;
  color: #fffcec;
  box-shadow: 0 0 15px rgba(0,0,0,0.5);
}

.author-container h2 {
  margin-bottom: 20px;
  font-size: 30px;
}

.author-container p {
  font-size: 16px;
  line-height: 1.6;
  margin-bottom: 20px;
}

.author-photo {
```

```

width: 150px;
height: 150px;
border-radius: 50%;
object-fit: cover;
margin-bottom: 20px;
border: 3px solid #FFD700;
}

/* Back dugme */

.back {
  position: fixed;
  top: 1rem;
  left: 1rem;
  z-index: 1000;
  padding: 0.5rem 0.75rem;
  background: rgba(0,0,0,0.6);
  color: #00ffff;
  text-decoration: none;
  border-radius: 6px;
  font-weight: 600;
  transition: background 0.2s ease, transform 0.2s ease;
}

.back:hover {
  background: rgba(0,0,0,0.8);
  transform: translateY(-2px);
}

input:invalid,
textarea:invalid,
select:invalid {
  background-color: rgba(255, 0, 0, 0.1);
  color: #000;
  border: 2px solid red;
}

input[type="date"]:invalid{
  background-color: rgba(255, 0, 0, 0.28);
  color:rgba(0, 0, 0, 0.28) !important;
}

/*LINKOVI */
footer.container {
  background-color: #111;

```

```

    color: #ccc;
    padding: 20px;
    margin-top: 40px;
    text-align: center;
    font-size: 14px;
}

footer.container p {
    margin-bottom: 15px;
    font-size: 15px;
    color: #aaa;
}

footer .footers {
    display: flex;
    justify-content: center;
    flex-wrap: wrap;
    gap: 25px;
}

footer .footers a {
    color: #ccc;
    text-decoration: none;
    font-weight: 500;
    transition: color 0.3s ease, transform 0.2s ease;
}

footer .footers a:hover {
    color: #00ffff;
    transform: translateY(-2px);
}

```

## style1.css

```

body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background: url('../img/bg2.jpg') no-repeat center center fixed;
    background-size: cover;
    color: #fff;
}

```

```
.forma-container {  
  max-width: 450px;  
  margin: 50px auto;  
  background: rgba(0, 0, 0, 0.7);  
  padding: 30px;  
  border-radius: 12px;  
  box-shadow: 0 0 15px rgba(0, 0, 0, 0.5);  
}
```

```
h2 {  
  text-align: center;  
  margin-bottom: 20px;  
  color: #fff8ce;  
}
```

```
label {  
  display: block;  
  margin: 12px 0 5px;  
  font-weight: bold;  
}
```

```
input,  
textarea {  
  width: 100%;  
  padding: 10px;  
  border-radius: 6px;  
  border: none;  
  margin-bottom: 10px;  
  font-size: 16px;  
  box-sizing: border-box;  
}
```

```
input.error,  
textarea.error {  
  border: 2px solid #fa4706;  
  background-color: #110000;  
}
```

```
button {  
  width: 100%;  
  padding: 12px;  
  background-color: #ffdd1e;
```

```
border: none;
border-radius: 6px;
font-size: 16px;
font-weight: bold;
cursor: pointer;
transition: 0.3s;
}

button:hover {
  background-color: #5f4700;
}

.poruka {
  color: #FF6347;
  font-size: 14px;
  margin-top: -5px;
  margin-bottom: 5px;
}

#bravo {
  margin-top: 10px;
  text-align: center;
  color: #00FF7F;
  font-weight: bold;
}

::placeholder {
  color: #d4d4d4;
}

.container {
  width: 90%;
  max-width: 1200px;
  margin: 0 auto;
}

.back {
  position: fixed;
  top: 1rem;
  left: 1rem;
  z-index: 1000;
  padding: 0.5rem 0.75rem;
  background: rgba(0, 0, 0, 0.6);
```



```

    color: #00ffff;
    text-decoration: none;
    border-radius: 6px;
    font-weight: 600;
    transition: background 0.2s ease, transform 0.2s ease;
}

.back:hover {
    background: rgba(0, 0, 0, 0.8);
    transform: translateY(-2px);
}

input:invalid,
textarea:invalid,
select:invalid {
    background-color: rgba(255, 0, 0, 0.1);
    color: #000;
    border: 2px solid red;
}

input[type="date"]:invalid{
    background-color: rgba(255, 0, 0, 0.28);
    color:rgba(255, 255, 255, 0.28) !important;
}

footer {
    text-align: center;
    padding: 1rem 0;
    background: rgba(0, 0, 0, 0.6);
    margin-top: 1.5rem;
    font-size: 0.95rem;
    color: #f1f1f1;
}

/*LINKOVI */
footer.container {
    background-color: #111;
    color: #ccc;
    padding: 20px;
    margin-top: 40px;
    text-align: center;
    font-size: 14px;

```

```

}

footer.container p {
  margin-bottom: 15px;
  font-size: 15px;
  color: #aaa;
}

footer .footers {
  display: flex;
  justify-content: center;
  flex-wrap: wrap;
  gap: 25px;
}

footer .footers a {
  color: #ccc;
  text-decoration: none;
  font-weight: 500;
  transition: color 0.3s ease, transform 0.2s ease;
}

footer .footers a:hover {
  color: #00ffff;
  transform: translateY(-2px);
}

```

JS

[main.js](#)

```

document.addEventListener('DOMContentLoaded', () => {
  const topics = [
    {
      title: "Cosmology",
      description: "The study of the universe's origin,
structure, and evolution.",
      moreInfo: ["Cosmology investigates phenomena like the Big
Bang, cosmic microwave background, and galaxy formation.",
        "It uses physics, astronomy, and mathematics to
understand the universe at large scales.",
        "Observations from telescopes and satellites inform
theoretical models of the cosmos."],
    },
  ];
});

```

```
        img: "img/cosmology.jpg",
        bgImg: "img/cosml.jpg",
        diagramType: "bigBang"
    },
    {
        title: "Evolution",
        description: "The study of how species change over time.",
        moreInfo: ["Evolution explains the diversity of life
through natural selection and genetic drift.",
        "Species adapt to their environments over
generations.",
        "Fossil records and DNA analysis provide strong
evidence for evolution."],
        img: "img/evolution.jpg",
        bgImg: "img/evoll.jpg",
        diagramType: "evol"
    },
    {
        title: "Quantum Mechanics",
        description: "The branch of physics dealing with atomic and
subatomic behavior.",
        moreInfo: ["Quantum Mechanics explores superposition,
entanglement, and uncertainty principles.",
        "It challenges classical intuition and shows
probabilities govern particle behavior.",
        "Applications include lasers, semiconductors, and
quantum computing."],
        img: "img/quantum.jpg",
        bgImg: "img/qml.jpg",
        diagramType: "superPozicija"
    },
    {
        title: "Chemistry",
        description: "The study of matter, its properties, and
reactions.",
        moreInfo: ["Chemistry studies atoms, molecules, reactions,
bonds, acids, bases, thermodynamics, and kinetics.",
        "It explains substances' composition and behavior.",
        "Chemistry impacts medicine, energy, environment, and
materials."],
        img: "img/chemistry.jpg",
        bgImg: "img/cheml.jpg",
        diagramType: "elektron"
```

```

    },
    {
        title: "Mathematics",
        description: "The study of numbers, shapes, structures, and
patterns.",
        moreInfo: ["Mathematics provides tools to model, analyze,
and solve problems.",
            "It ranges from arithmetic to advanced fields like
algebra and topology.",
            "Math underpins logic, algorithms, and many
technological advances."],
        img: "img/mathematics.jpg",
        bgImg: "img/math1.jpg",
        diagramType: "pi"
    },
    {
        title: "Medicine",
        description: "The science and practice of diagnosing,
treating, and preventing disease.",
        moreInfo: ["Medicine combines biology, chemistry, and
technology to improve health.",
            "Covers specialties like surgery, pharmacology, and
public health.",
            "Modern medicine uses research, trials, and innovations
like vaccines."],
        img: "img/medicine.jpg",
        bgImg: "img/med1.jpg",
        diagramType: "srce"
    }
];

const container = document.getElementById('glossary_container');
const modal = document.getElementById('modal_container');

topics.forEach(topic => {
    const card = document.createElement('div');
    card.className = 'glossary_card';

    const img = document.createElement('img');
    img.src = topic.img;
    img.alt = topic.title;
    card.appendChild(img);

```

```

    const h3 = document.createElement('h3');
    h3.textContent = topic.title;
    card.appendChild(h3);

    const p = document.createElement('p');
    p.textContent = topic.description;
    card.appendChild(p);

    card.addEventListener('click', () => {
        const paragraphs = topic.moreInfo.map(p =>
`<p>${p}</p>`).join('');
        modal.innerHTML = `
            <div class="modal_overlay"></div>
            <div class="modal_content" style="background-image:
url('${topic.bgImg}')">
                <span class="modal_close">&times;</span>
                <div class="modal_text_overlay">
                    <h2>${topic.title}</h2>
                    ${paragraphs}
                </div>
                <canvas class="modal_diagram"></canvas>
            </div>
        `;
        modal.classList.add('show');

modal.querySelector('.modal_close').addEventListener('click', () =>
modal.classList.remove('show'));

modal.querySelector('.modal_overlay').addEventListener('click', () =>
modal.classList.remove('show'));

        const diagramPoints = [
            { x: 0.05, y: 0.8 }, { x: 0.25, y: 0.4 }, { x: 0.5, y:
0.6 }, { x: 0.75, y: 0.3 }, { x: 0.95, y: 0.5 }
        ];

        drawDiagram('.modal_diagram', topic.diagramType);
    });

    container.appendChild(card);
});

```

```

const navToggle = document.querySelector('.nav_toggle');
const navList = document.querySelector('.nav_list');

navToggle.addEventListener('click', () => {
  navList.classList.toggle('show');
});
});

```

### [diagram.js](#)

```

function drawDiagram(canvasSelector, type) {
  const canvas = $(canvasSelector)[0];
  canvas.width = canvas.offsetWidth;
  canvas.height = canvas.offsetHeight;
  const ctx = canvas.getContext('2d');

  ctx.clearRect(0, 0, canvas.width, canvas.height);

  switch (type) {
    case "bigBang":
      let radius = 0;
      function bB() {
        ctx.clearRect(0, 0, canvas.width, canvas.height);
        ctx.beginPath();
        ctx.arc(canvas.width / 2, canvas.height / 2, radius, 0,
2 * Math.PI);

        ctx.strokeStyle = "#00ffff";
        ctx.lineWidth = 2;
        ctx.stroke();
        if (radius < Math.min(canvas.width, canvas.height) / 2)
{
          radius += 0.3;
          requestAnimationFrame(bB);
        }
      }
      bB();
      break;

    case "evol":
      const branches = [
        [{ x: 0.5, y: 0.9 }, { x: 0.5, y: 0.6 }, { x: 0.3, y:
0.4 }],
        [{ x: 0.5, y: 0.6 }, { x: 0.7, y: 0.4 }]

```

```

];
let progress = 0;
function drawBranches() {
    ctx.clearRect(0, 0, canvas.width, canvas.height);
    ctx.strokeStyle = "#00ff00";
    ctx.lineWidth = 2;
    branches.forEach(branch => {
        ctx.beginPath();
        ctx.moveTo(branch[0].x * canvas.width, branch[0].y
* canvas.height);
        for (let i = 1; i <= Math.floor(progress) && i <
branch.length; i++) {
            ctx.lineTo(branch[i].x * canvas.width,
branch[i].y * canvas.height);
        }
        if (progress < branch.length - 1) {
            const curr = branch[Math.floor(progress)];
            const next = branch[Math.floor(progress) + 1];
            const fraction = progress -
Math.floor(progress);
            const x = curr.x * canvas.width + (next.x -
curr.x) * fraction * canvas.width;
            const y = curr.y * canvas.height + (next.y -
curr.y) * fraction * canvas.height;
            ctx.lineTo(x, y);
        }
        ctx.stroke();
    });
    if (progress < branches[0].length) {
        progress += 0.02;
        requestAnimationFrame(drawBranches);
    }
}
drawBranches();
break;

case "elektron":
    let ugao = 0;
    const centarX = canvas.width / 2;
    const centarY = canvas.height / 2;
    const orbita = Math.min(canvas.width, canvas.height) / 4;
    function orbit() {
        ctx.clearRect(0, 0, canvas.width, canvas.height);

```

```

        // nukleus
        ctx.beginPath();
        ctx.arc(centarX, centarY, 10, 0, 2 * Math.PI);
        ctx.fillStyle = "red";
        ctx.fill();
        // elektron
        ctx.beginPath();
        const elektronX = centarX + orbita * Math.cos(ugao);
        const elektronY = centarY + orbita * Math.sin(ugao);
        ctx.arc(elektronX, elektronY, 6, 0, 2 * Math.PI);
        ctx.fillStyle = "blue";
        ctx.fill();
        ugao += 0.05;
        requestAnimationFrame(orbit);
    }
    orbit();
    break;

case "superPozicija":
    const start = { x: 0.1, y: 0.8 };
    const mid1 = { x: 0.5, y: 0.3 };
    const mid2 = { x: 0.5, y: 0.3 };
    const end = { x: 0.9, y: 0.7 };
    let tSplit = 0;

    function superPozicija() {
        ctx.clearRect(0, 0, canvas.width, canvas.height);
        const factor = 0.3 * Math.sin(tSplit * 0.05); //
controls divergence

        // prva
        ctx.beginPath();
        ctx.moveTo(start.x * canvas.width, start.y *
canvas.height);
        ctx.lineTo(mid1.x * canvas.width - factor *
canvas.width, mid1.y * canvas.height - factor * canvas.height);
        ctx.lineTo(end.x * canvas.width, end.y *
canvas.height);
        ctx.strokeStyle = "#ff00ff";
        ctx.lineWidth = 2;
        ctx.stroke();

        // druga

```



```

        ctx.beginPath();
        ctx.moveTo(start.x * canvas.width, start.y *
canvas.height);
        ctx.lineTo(mid2.x * canvas.width + factor *
canvas.width, mid2.y * canvas.height - factor * canvas.height);
        ctx.lineTo(end.x * canvas.width, end.y *
canvas.height);
        ctx.stroke();

        tSplit++;
        requestAnimationFrame(superPozicija);
    }

    superPozicija();
    break;

    case "pi":
        const text = "π =
3.14159265358979323846264338327950288419716939937510...";
        let i1 = 0;
        function writePi() {
            ctx.clearRect(0, 0, canvas.width, canvas.height);
            ctx.font = "24px Arial";
            ctx.fillStyle = "#ffff00";
            ctx.fillText(text.slice(0, i1), 10, canvas.height / 2);
            if (i1 < text.length) {
                i1++;
                setTimeout(writePi, 200);
            }
        }
        writePi();
        break;

    case "srce":
        let t = 0;
        const otkucaj = 0.01; // manji brojevi, brze kuca
        const baza = 3;      // baza
        const amplituda = 1.2; // amp
        function srce() {
            ctx.clearRect(0, 0, canvas.width, canvas.height);
            const faktor = Math.pow(Math.sin(t * otkucaj *
Math.PI), 2);
            const skala = baza + amplituda * faktor;

```

```

        ctx.beginPath();
        for (let a = 0; a < Math.PI * 2; a += 0.01) {
            const x = skala * 16 * Math.pow(Math.sin(a), 3);
            const y = -skala * (13 * Math.cos(a) - 5 *
Math.cos(2 * a) - 2 * Math.cos(3 * a) - Math.cos(4 * a));
            ctx.lineTo(canvas.width / 2 + x, canvas.height / 2
+ y);
        }
        ctx.fillStyle = "red";
        ctx.fill();
        t++;
        requestAnimationFrame(srce);
    }
    srce();
    break;
}
}

```

## [forma.js](#)

```

$(document).ready(function() {
    $('#scienceForma').submit(function(e) {
        e.preventDefault();
        let valid = true;
        $('#bravo').text('');
        $('input, textarea').removeClass('error');
        $('.poruka').remove();

        // Regex
        const nameRegex = /^[A-Za-zÀ-Ž\s]{2,30}$/; // kukice
        const emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]{2,}$/;
        const unitRegex = /^\d+(\.\d+)?\s?(cm|m|kg|g|mm)?$/i;

        // Name
        const name = $('#name').val().trim();
        if(!nameRegex.test(name)) {
            $('#name').addClass('error');
            $('<div class="poruka">Please enter a valid name (letters and
spaces only).</div>').insertAfter('#name');

```

```

        valid = false;
    }

    // Email
    const email = $('#email').val().trim();
    if(!emailRegex.test(email)) {
        $('#email').addClass('error');
        $('#<div class="poruka">Please enter a valid email
address.</div>').insertAfter('#email');
        valid = false;
    }

    // Date
    const date = $('#date').val();
    const today = new Date().toISOString().split('T')[0]; // today's date
    in yyyy-mm-dd
    if(!date || date > today) {
        $('#date').addClass('error');
        $('#<div class="poruka">Please select a valid date (not in the future,
unless your experiment is time travel
:D).</div>').insertAfter('#date');
        valid = false;
    }

    // Unit
    const value = $('#value').val().trim();
    if(!unitRegex.test(value) || parseFloat(value) < 0) {
        $('#value').addClass('error');
        $('#<div class="poruka">Please enter a valid positive measurement
(e.g., 23.5 cm).</div>').insertAfter('#value');
        valid = false;
    }

    if(valid){
        $('#bravo').text('Form submitted successfully!');
    } else {
        $('#bravo').text('Please fix the highlighted fields.');
```

