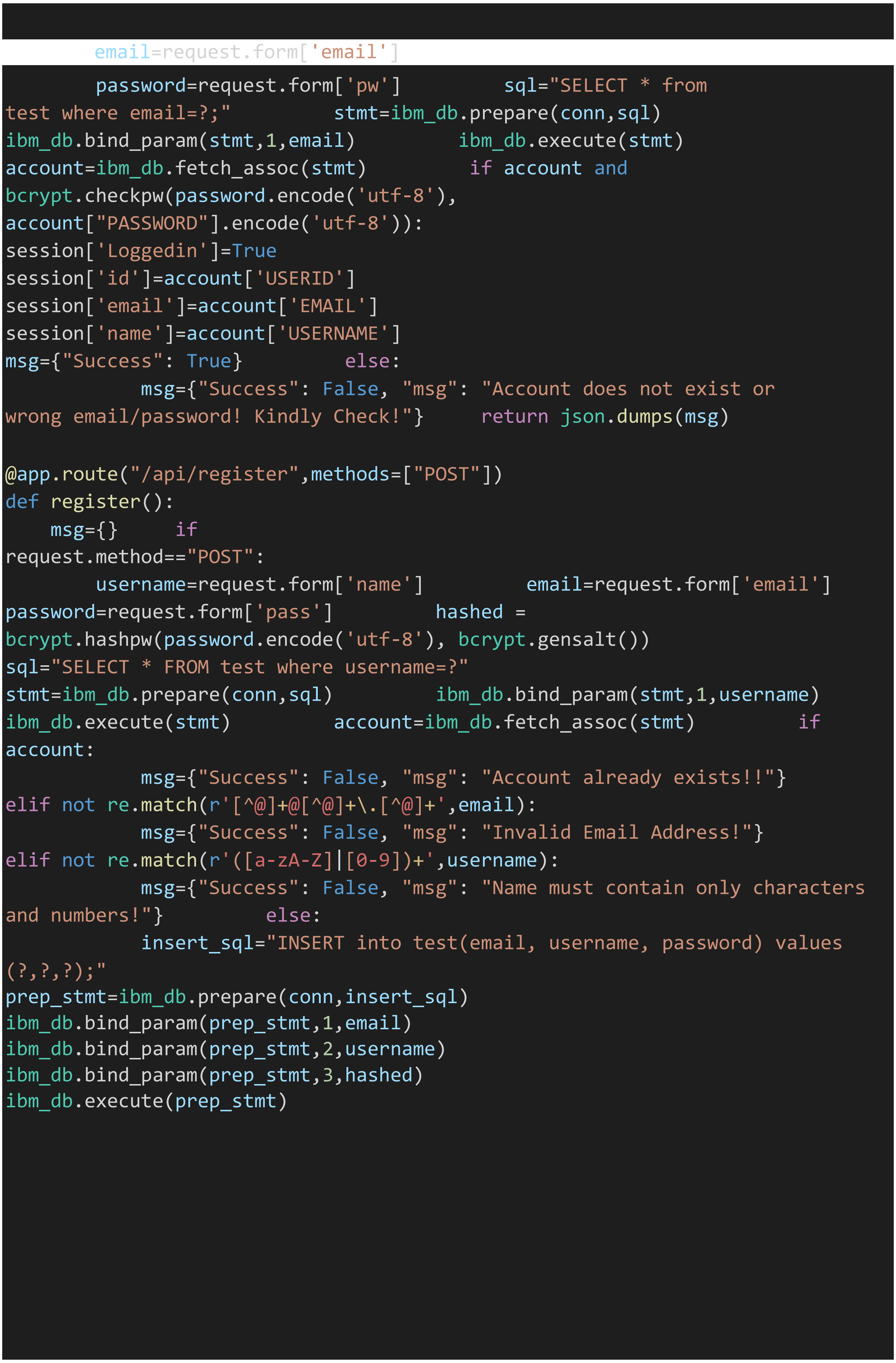
FINAL APPLICATION CODE AND OUTPUT

Date	18 November 2022
Team ID	PNT2022TMID04500
Project Name	Project – Personal Expense Tracker Application

Implementing Various modules

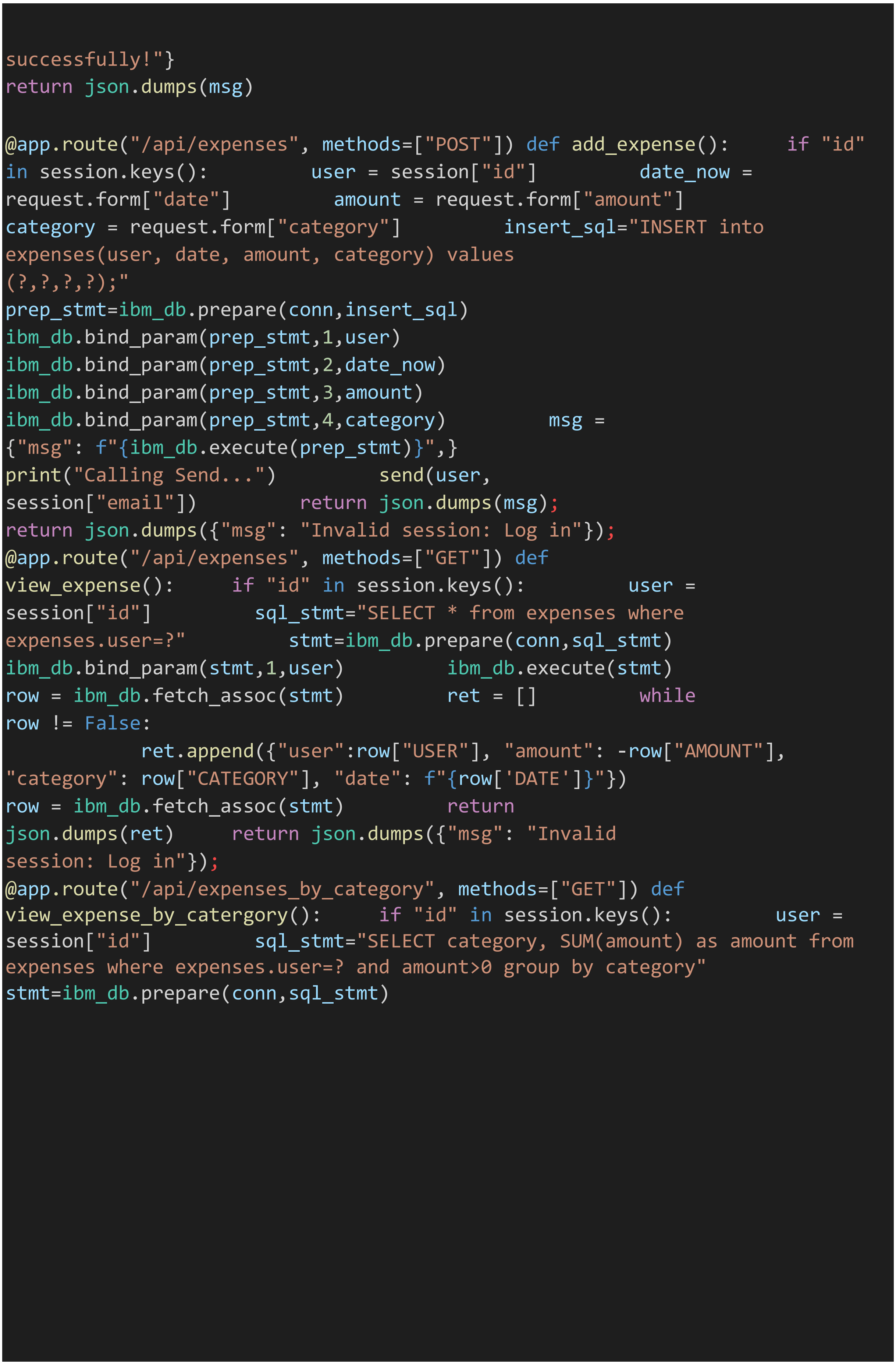
App.py

```
from flask import
Flask,render_template,request,redirect,url_for,session from datetime
import date import ibm_db import bcrypt import re import json import os
from sendgrid import SendGridAPIClient from sendgrid.helpers.mail
import Mail
 app=Flask(__name__)
app.secret_key='a'
 conn=ibm_db.connect("DATABASE=bludb;HOSTNAME=b70af05b-76e4-4bca-a1f5-
23dbb4c6a74e.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=32716;Securit
y=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=dgp98488;PWD=T4ZhPsFfV
gztgO7H;","","")

@app.route('/') def
home():
    return render_template('signup.html')
@app.route('/dashboard') def
dash():
    return render_template('dashboard.html')
@app.route('/graph') def
graph():
    return render_template('graph.html')
@app.route('/display') def
display():
    print (session["email"],session["id"])

@app.route("/api/login",methods=['POST'])
def login():     msg={};     if
request.method=="POST":
```



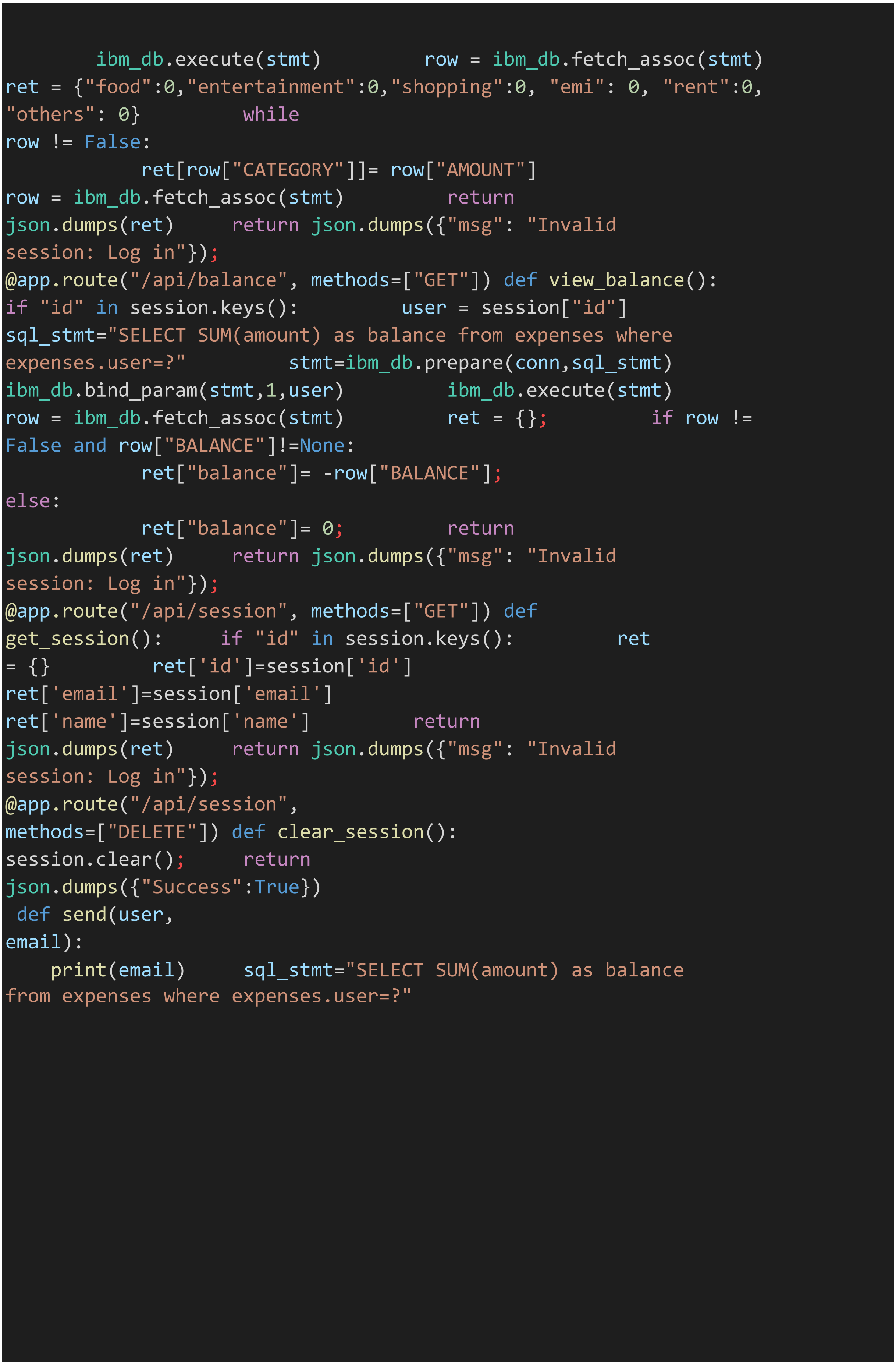
```
        email=request.form['email']
        password=request.form['pw']         sql="SELECT * from
test where email=?;"         stmt=ibm_db.prepare(conn,sql)
ibm_db.bind_param(stmt,1,email)         ibm_db.execute(stmt)
account=ibm_db.fetch_assoc(stmt)         if account and
bcrypt.checkpw(password.encode('utf-8'),
account["PASSWORD"].encode('utf-8')):
session['Loggedin']=True
session['id']=account['USERID']
session['email']=account['EMAIL']
session['name']=account['USERNAME']
msg={"Success": True}         else:
            msg={"Success": False, "msg": "Account does not exist or
wrong email/password! Kindly Check!"}     return json.dumps(msg)

@app.route("/api/register",methods=["POST"])
def register():
    msg={}     if
request.method=="POST":
        username=request.form['name']         email=request.form['email']
password=request.form['pass']         hashed =
bcrypt.hashpw(password.encode('utf-8'), bcrypt.gensalt())
sql="SELECT * FROM test where username=?"
stmt=ibm_db.prepare(conn,sql)         ibm_db.bind_param(stmt,1,username)
ibm_db.execute(stmt)         account=ibm_db.fetch_assoc(stmt)         if
account:
            msg={"Success": False, "msg": "Account already exists!!"}
elif not re.match(r'[^@]+@[^@]+\.[^@]+',email):
            msg={"Success": False, "msg": "Invalid Email Address!"}
elif not re.match(r'([a-zA-Z]|[0-9])+',username):
            msg={"Success": False, "msg": "Name must contain only characters
and numbers!"}         else:
            insert_sql="INSERT into test(email, username, password) values
(?,?,?);"
prep_stmt=ibm_db.prepare(conn,insert_sql)
ibm_db.bind_param(prep_stmt,1,email)
ibm_db.bind_param(prep_stmt,2,username)
ibm_db.bind_param(prep_stmt,3,hashed)
ibm_db.execute(prep_stmt)
```

```
            msg={"Success": True, "msg": "You have registered for the
    App
```



```
successfully!"}
return json.dumps(msg)

@app.route("/api/expenses", methods=["POST"]) def add_expense():     if "id"
in session.keys():          user = session["id"]          date_now =
request.form["date"]          amount = request.form["amount"]
category = request.form["category"]          insert_sql="INSERT into
expenses(user, date, amount, category) values
(?,?,?,?);"
prep_stmt=ibm_db.prepare(conn,insert_sql)
ibm_db.bind_param(prep_stmt,1,user)
ibm_db.bind_param(prep_stmt,2,date_now)
ibm_db.bind_param(prep_stmt,3,amount)
ibm_db.bind_param(prep_stmt,4,category)          msg =
{"msg": f"{ibm_db.execute(prep_stmt)}",}
print("Calling Send...")          send(user,
session["email"])          return json.dumps(msg);
return json.dumps({"msg": "Invalid session: Log in"});
@app.route("/api/expenses", methods=["GET"]) def
view_expense():     if "id" in session.keys():          user =
session["id"]          sql_stmt="SELECT * from expenses where
expenses.user=?"          stmt=ibm_db.prepare(conn,sql_stmt)
ibm_db.bind_param(stmt,1,user)          ibm_db.execute(stmt)
row = ibm_db.fetch_assoc(stmt)          ret = []          while
row != False:
            ret.append({"user":row["USER"], "amount": -row["AMOUNT"],
"category": row["CATEGORY"], "date": f"{row['DATE']}"})
row = ibm_db.fetch_assoc(stmt)          return
json.dumps(ret)     return json.dumps({"msg": "Invalid
session: Log in"});
@app.route("/api/expenses_by_category", methods=["GET"]) def
view_expense_by_catergory():     if "id" in session.keys():          user =
session["id"]          sql_stmt="SELECT category, SUM(amount) as amount from
expenses where expenses.user=? and amount>0 group by category"
stmt=ibm_db.prepare(conn,sql_stmt)
```

```
        ibm_db.bind_param(stmt,1,user)
```

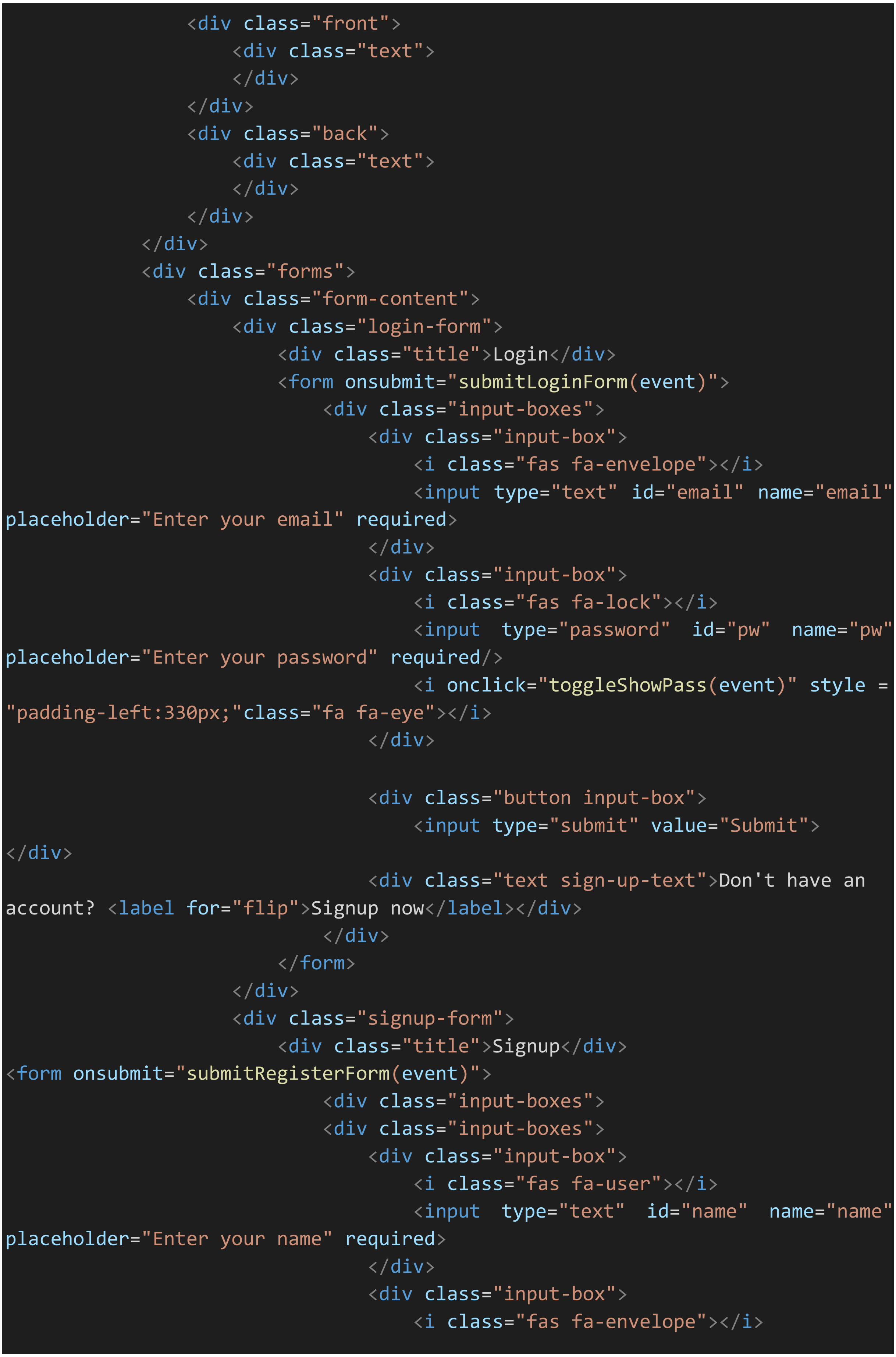


```
        ibm_db.execute(stmt)         row = ibm_db.fetch_assoc(stmt)
ret = {"food":0,"entertainment":0,"shopping":0, "emi": 0, "rent":0,
"others": 0}         while
row != False:
            ret[row["CATEGORY"]]= row["AMOUNT"]
row = ibm_db.fetch_assoc(stmt)         return
json.dumps(ret)     return json.dumps({"msg": "Invalid
session: Log in"});
@app.route("/api/balance", methods=["GET"]) def view_balance():
if "id" in session.keys():         user = session["id"]
sql_stmt="SELECT SUM(amount) as balance from expenses where
expenses.user=?"         stmt=ibm_db.prepare(conn,sql_stmt)
ibm_db.bind_param(stmt,1,user)         ibm_db.execute(stmt)
row = ibm_db.fetch_assoc(stmt)         ret = {};         if row !=
False and row["BALANCE"]!=None:
            ret["balance"]= -row["BALANCE"];
else:
            ret["balance"]= 0;         return
json.dumps(ret)     return json.dumps({"msg": "Invalid
session: Log in"});
@app.route("/api/session", methods=["GET"]) def
get_session():     if "id" in session.keys():         ret
= {}         ret['id']=session['id']
ret['email']=session['email']
ret['name']=session['name']         return
json.dumps(ret)     return json.dumps({"msg": "Invalid
session: Log in"});
@app.route("/api/session",
methods=["DELETE"]) def clear_session():
session.clear();     return
json.dumps({"Success":True})
 def send(user,
email):
    print(email)     sql_stmt="SELECT SUM(amount) as balance
from expenses where expenses.user=?"
```

```
    stmt=ibm_db.prepare(conn,sql_stmt)
    ibm_db.bind_param(stmt,1,user)      ibm_db.execute(stmt)
row = ibm_db.fetch_assoc(stmt)      ret = {};      if row != False
and row["BALANCE"]!=None and row["BALANCE"]>0:
        message=Mail(from_email='ramyanmsr@gmail.com',
to_emails=email,                      subject='ALERT!! Budget Exceeded!',
plain_text_content='Budget has been crossed for this month',
html_content='<strong>Hi user,<br>You have crossed your budget for this
month. Its a remainder for you to start saving!</strong>')          try:
            sg =
SendGridAPIClient(os.environ.get('SENDGRID_API_KEY'))
print(os.environ.get('SENDGRID_API_KEY'))
response=sg.send(message)             print(response.status_code)
print(response.body)             print(response.headers)
         except Exception as
e:
            print(e)
 if __name__ ==
"__main__":
    app.run(host="0.0.0.0", debug=True)
```

- **Login and Registration** Source Code:

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
    <head>
        <meta charset="UTF-8">
        <title>Personal Expense Tracker Login</title>
<link rel="stylesheet" href="{{ url_for('static',
filename='css/style.login.css') }}" />
        <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/fontawesome/5.15.3/css/all.min.css"
/>
        <meta name="viewport" content="width=device-width, initial-scale=1.0"
/>
    </head>
    <body>
        <div class="container">
            <input type="checkbox" id="flip">
            <div class="cover">
```



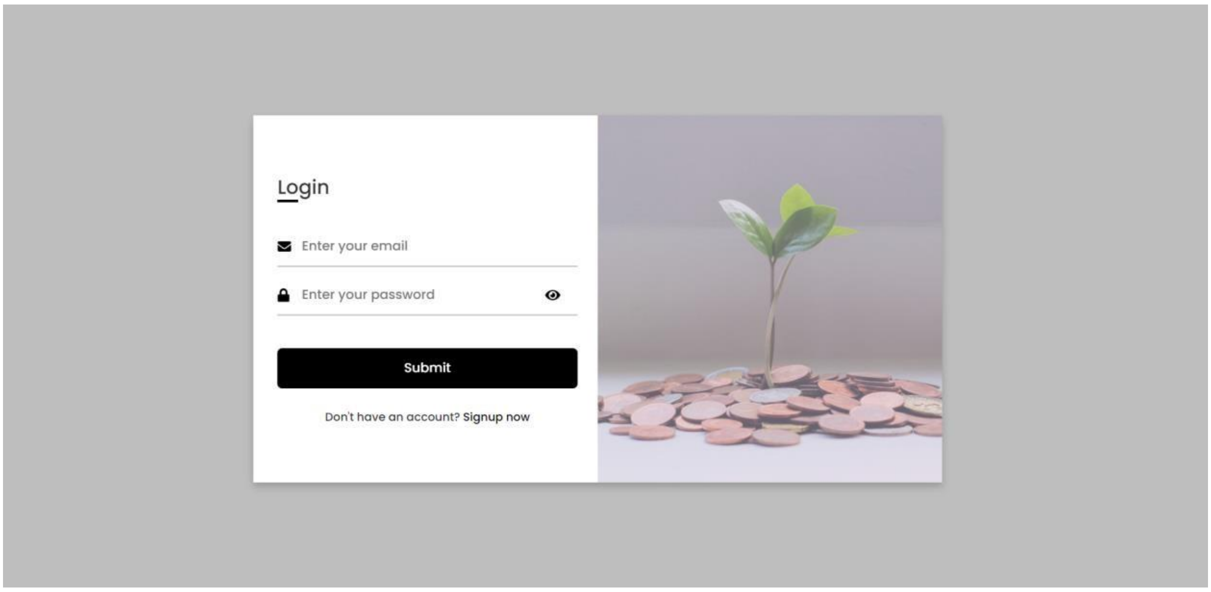
```
                <div class="front">
                    <div class="text">
                    </div>
                </div>
                <div class="back">
                    <div class="text">
                    </div>
                </div>
            </div>
            <div class="forms">
                <div class="form-content">
                    <div class="login-form">
                        <div class="title">Login</div>
                        <form onsubmit="submitLoginForm(event)">
                            <div class="input-boxes">
                                <div class="input-box">
                                    <i class="fas fa-envelope"></i>
                                    <input type="text" id="email" name="email"
placeholder="Enter your email" required>
                                </div>
                                <div class="input-box">
                                    <i class="fas fa-lock"></i>
                                    <input type="password" id="pw" name="pw"
placeholder="Enter your password" required/>
                                    <i onclick="toggleShowPass(event)" style =
"padding-left:330px;"class="fa fa-eye"></i>
                                </div>

                                <div class="button input-box">
                                    <input type="submit" value="Submit">
</div>
                                <div class="text sign-up-text">Don't have an
account? <label for="flip">Signup now</label></div>
                            </div>
                        </form>
                    </div>
                    <div class="signup-form">
                        <div class="title">Signup</div>
<form onsubmit="submitRegisterForm(event)">
                            <div class="input-boxes">
                            <div class="input-boxes">
                                <div class="input-box">
                                    <i class="fas fa-user"></i>
                                    <input type="text" id="name" name="name"
placeholder="Enter your name" required>
                                </div>
                                <div class="input-box">
                                    <i class="fas fa-envelope"></i>
                                    <input type="text" id="email" name="email"
placeholder="Enter your email" required>
                                </div>
                                <div class="input-box">
                                    <i class="fas fa-lock"></i>
<input type="password" id="pass" name="pass" placeholder="Enter your
password" required>
                                    <i onclick="toggleShowPass(event)" style =
"padding-left:330px;"class="fa fa-eye"></i>
                                </div>
                                <div class="button input-box">
                                    <input type="submit" value="Submit">
                                </div>
                                <div class="text sign-up-text">Already have an
account? <label for="flip">Login now</label></div>
                            </div>
                        </form>
                    </div>
                </div>
            </div>
        </div>
        <script type="text/javascript" src="{{ url_for('static',
filename='js/script.login.js') }}"></script>
    </body>
</html>
```

Java Script file:

```
let toggleShowPass = (event) => {     let x =
event.currentTarget.parentElement.querySelector("input");     if
(x.type === "password") {
        x.type = "text";
    } else {
        x.type = "password";
    }
}  const submitLoginForm = (e)
=> {
    e.preventDefault()
    let form = event.currentTarget;
fetch("http://localhost:5000/api/login", {
method: "POST",
        body: new FormData(form)
    })
    .then(body=>body.json())
    .then((x)=>{
if (!x.Success){
alert(x.msg);
```

```
        } else {             window.location =
"http://localhost:5000/dashboard"
        }
    })
}  const submitRegisterForm = (e)
=> {
    e.preventDefault()     let form =
event.currentTarget;
fetch("http://localhost:5000/api/register", {
method: "POST",
        body: new FormData(form)
    })
    .then(body=>body.json())
    .then((x)=>{
if (!x.Success){
alert(x.msg);
        } else {             window.location =
"http://localhost:5000/"
        }
    })
}
```

Output:

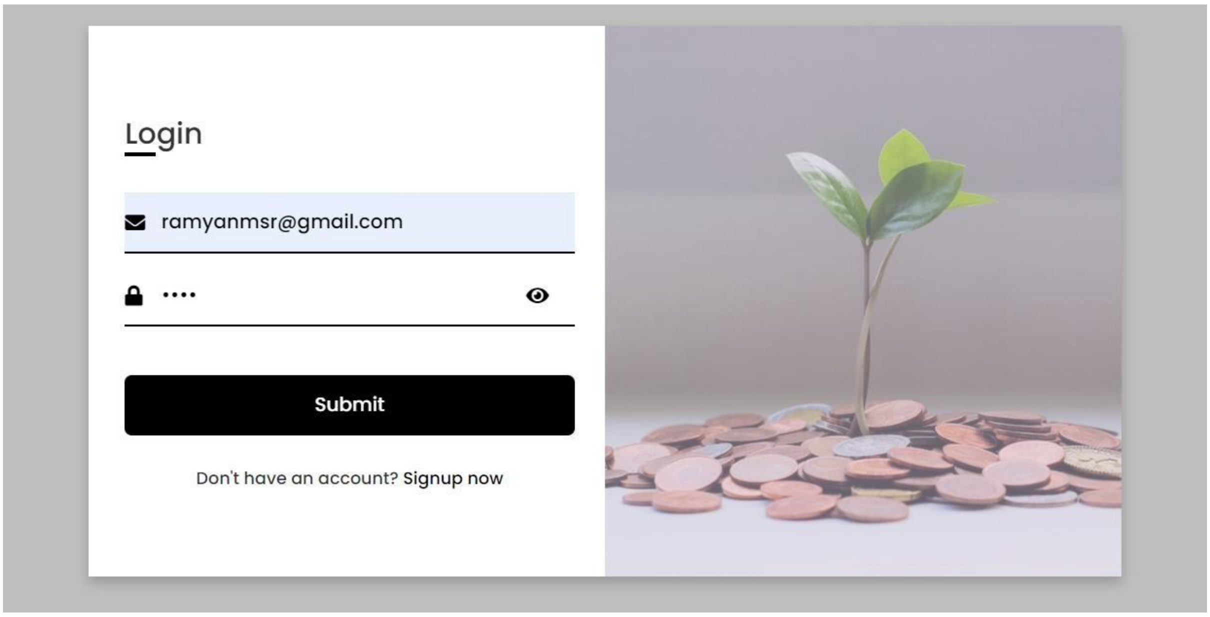


Login

Enter your email

Enter your password

Don't have an account? Signup now



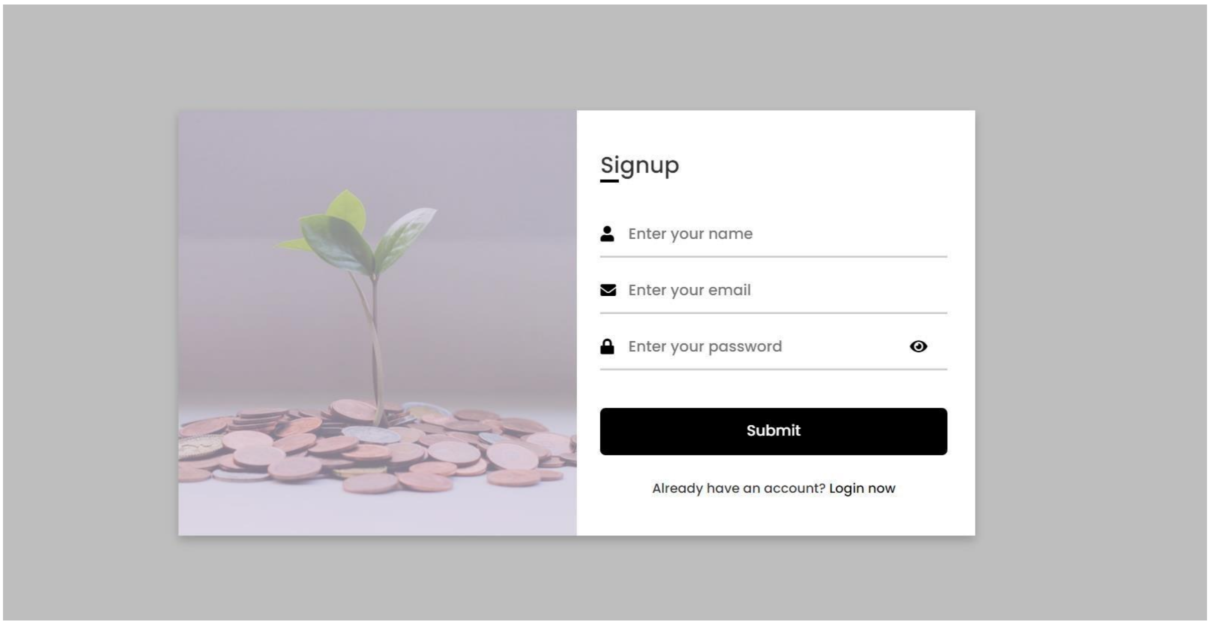
Login

ramyanmsr@gmail.com

••••

Submit

Don't have an account? Signup now



Signup

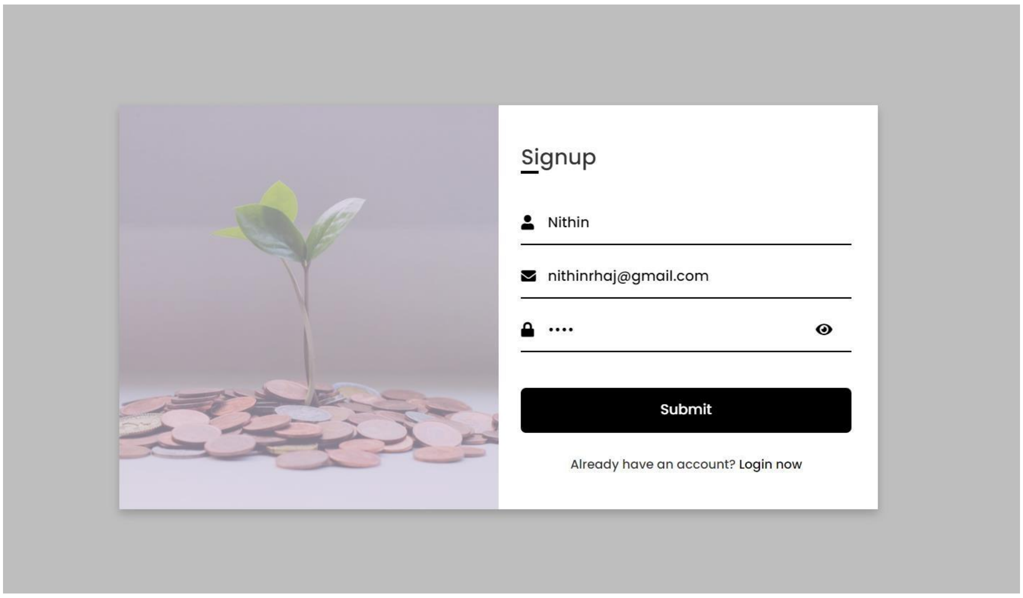
Enter your name

Enter your email

Enter your password

Submit

Already have an account? Login now



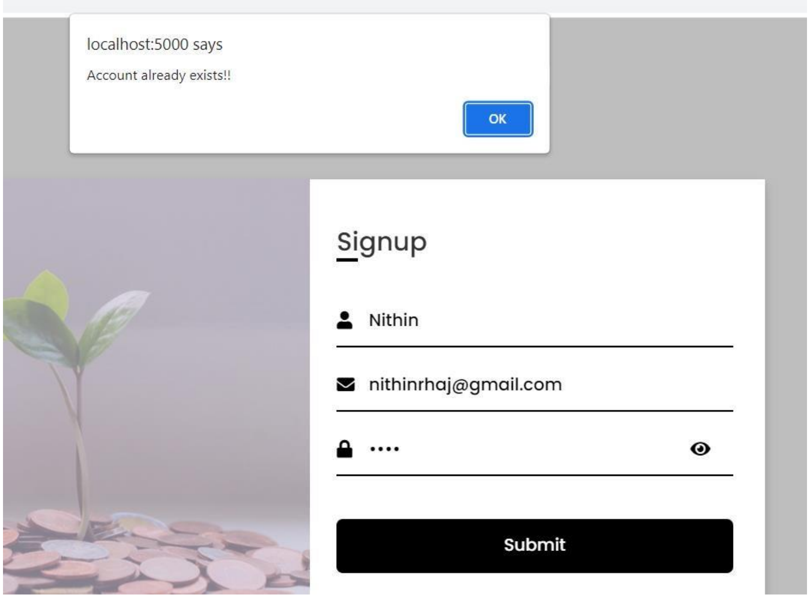
Signup

Nithin

nithinrhaj@gmail.com

••••

Already have an account? Login now



localhost:5000 says

Account already exists!!

Signup

Nithin

nithinrhaj@gmail.com

••••

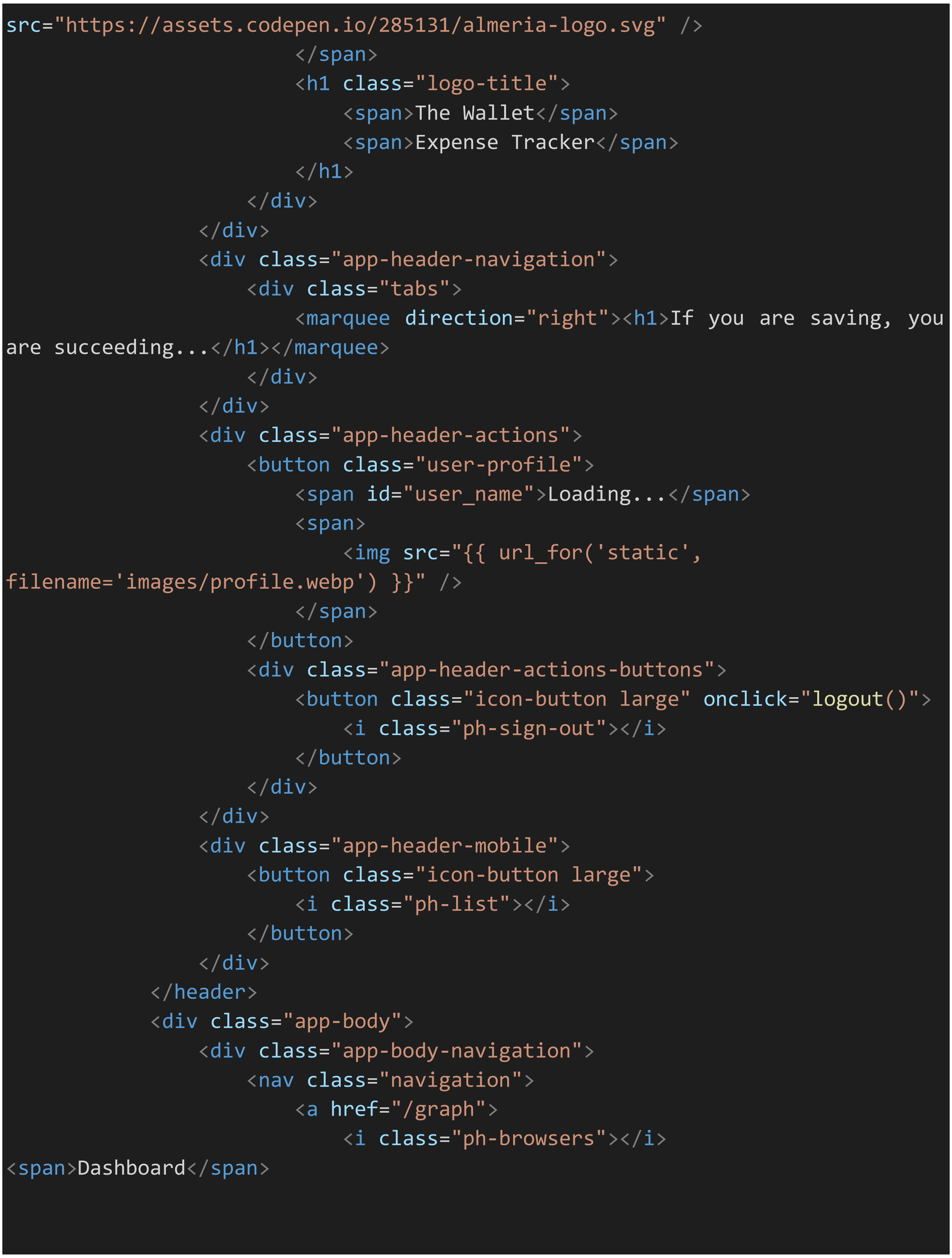
- **Dashboard – Add Money to wallet & Add Expenditures** Source Code:

```
<!DOCTYPE html>
<html lang="en" >
    <head>
        <meta charset="UTF-8">
        <title>The Wallet</title>         <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/meyer-reset/2.0/reset.min.css">
        <link rel="stylesheet" href="{{ url_for('static',
filename='css/style.dashboard.css') }}">
    </head>
    <body onload="main()">
        <!-- partial:index.partial.html -->
        <div class="app">
```

[redacted]

```
<header class="app-header">
    <div class="app-header-logo">
        <div class="logo">
            <span class="logo-icon">
                <img
```

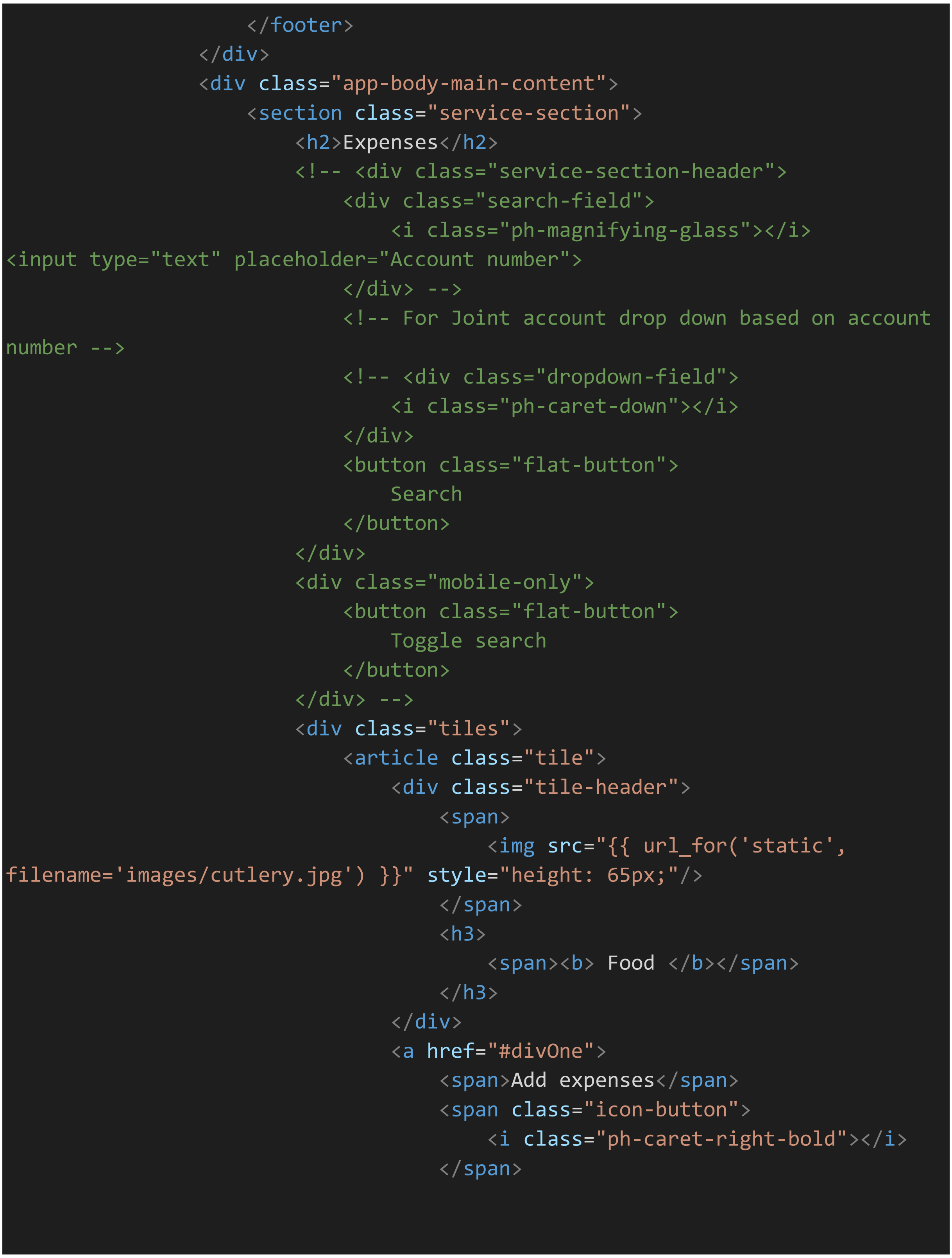
[redacted]



```
src="https://assets.codepen.io/285131/almeria-logo.svg" />
                        </span>
                        <h1 class="logo-title">
                            <span>The Wallet</span>
                            <span>Expense Tracker</span>
                        </h1>
                    </div>
                </div>
                <div class="app-header-navigation">
                    <div class="tabs">
                        <marquee direction="right"><h1>If you are saving, you
are succeeding...</h1></marquee>
                    </div>
                </div>
                <div class="app-header-actions">
                    <button class="user-profile">
                        <span id="user_name">Loading...</span>
                        <span>
                            <img src="{{ url_for('static',
filename='images/profile.webp') }}" />
                        </span>
                    </button>
                    <div class="app-header-actions-buttons">
                        <button class="icon-button large" onclick="logout()">
                            <i class="ph-sign-out"></i>
                        </button>
                    </div>
                </div>
                <div class="app-header-mobile">
                    <button class="icon-button large">
                        <i class="ph-list"></i>
                    </button>
                </div>
            </header>
            <div class="app-body">
                <div class="app-body-navigation">
                    <nav class="navigation">
                        <a href="/graph">
                            <i class="ph-browsers"></i>
<span>Dashboard</span>
```

```
                        </a>
```

```
    <a href="/dashboard">
        <i class="ph-check-square"></i>
        <span>Expenses</span>
    </a>
</nav>
<footer class="footer">
    <h1>The Wallet<small>©</small></h1>
```



```
                    </footer>
                </div>
                <div class="app-body-main-content">
                    <section class="service-section">
                        <h2>Expenses</h2>
                        <!-- <div class="service-section-header">
                            <div class="search-field">
                                <i class="ph-magnifying-glass"></i>
<input type="text" placeholder="Account number">
                            </div> -->
                            <!-- For Joint account drop down based on account
number -->
                            <!-- <div class="dropdown-field">
                                <i class="ph-caret-down"></i>
                            </div>
                            <button class="flat-button">
                                Search
                            </button>
                        </div>
                        <div class="mobile-only">
                            <button class="flat-button">
                                Toggle search
                            </button>
                        </div> -->
                        <div class="tiles">
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/cutlery.jpg') }}" style="height: 65px;"/>
                                    </span>
                                    <h3>
                                        <span><b> Food </b></span>
                                    </h3>
                                </div>
                                <a href="#divOne">
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
```

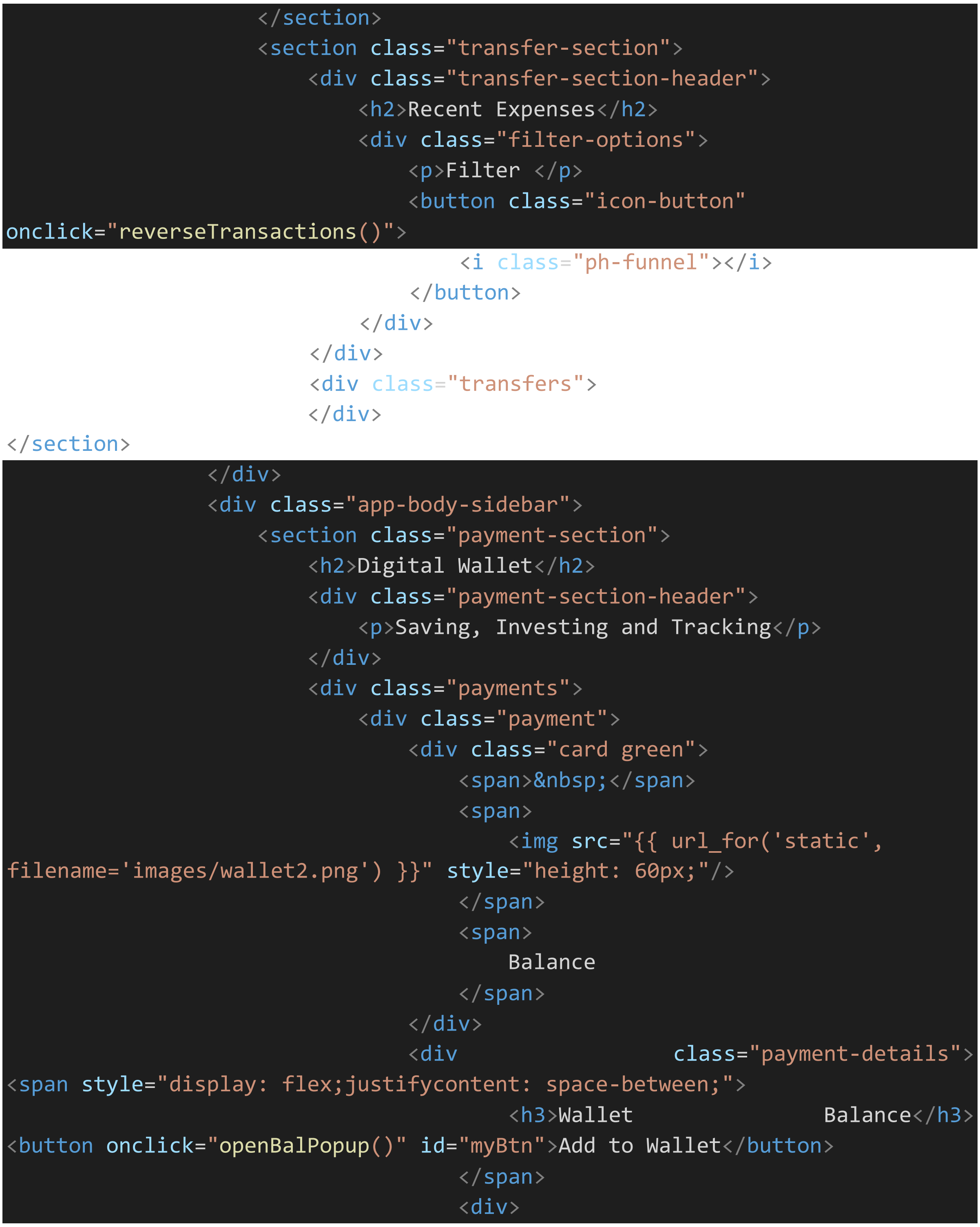
[redacted]

```
                                </a>
                            </article>
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static', 
filename='images/entertainment.jpg') }}" style="height: 65px;"/>
```

[redacted]

```
                                    </span>
                                    <h3>
                                        <span>Entertainment</span>
                                    </h3>
                                </div>
                                <a href="#divOne">
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
                                </a>
                            </article>
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/shopping.png') }}" style="height: 65px;"/>
                                    </span>
                                    <h3>
                                        <span>Shopping</span>
                                    </h3>
                                </div>
                                <a href="#divOne">
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
                                </a>
                            </article>
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/EMI.jpg') }}" style="height: 65px;"/>
                                    </span>
                                    <h3>
                                        <span>EMI</span>
                                    </h3>
                                </div>
                                <a href="#divOne">
```

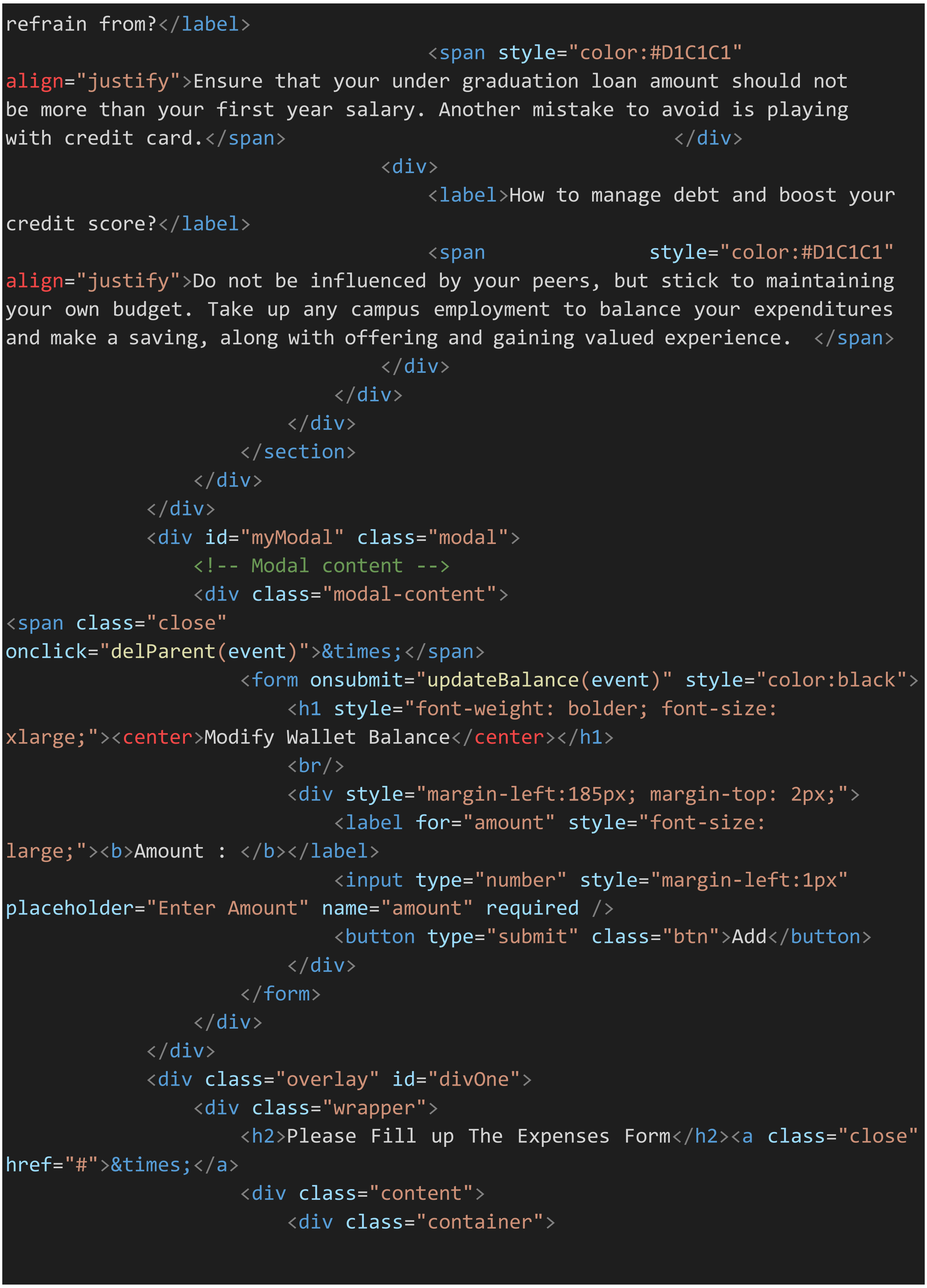
```
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
                                </a>
                            </article>
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/house.jpeg') }}" style="height: 65px;"/>
                                    </span>
                                    <h3>
                                        <span>Rent</span>
                                    </h3>
                                </div>
                                <a href="#divOne">
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
                                </a>
                            </article>
                            <article class="tile">
                                <div class="tile-header">
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/misc.jpg') }}" style="height: 65px;"/>
                                    </span>
                                    <h3>
                                        <span>Others</span>
                                    </h3>
                                </div>
                                <a href="#divOne">
                                    <span>Add expenses</span>
                                    <span class="icon-button">
                                        <i class="ph-caret-right-bold"></i>
                                    </span>
                                </a>
                            </article>
                        </div>
```



```
                    </section>
                    <section class="transfer-section">
                        <div class="transfer-section-header">
                            <h2>Recent Expenses</h2>
                            <div class="filter-options">
                                <p>Filter </p>
                                <button class="icon-button"
onclick="reverseTransactions()">
                                    <i class="ph-funnel"></i>
                                </button>
                            </div>
                        </div>
                        <div class="transfers">
                        </div>
</section>
                </div>
                <div class="app-body-sidebar">
                    <section class="payment-section">
                        <h2>Digital Wallet</h2>
                        <div class="payment-section-header">
                            <p>Saving, Investing and Tracking</p>
                        </div>
                        <div class="payments">
                            <div class="payment">
                                <div class="card green">
                                    <span>&nbsp;</span>
                                    <span>
                                        <img src="{{ url_for('static',
filename='images/wallet2.png') }}" style="height: 60px;"/>
                                    </span>
                                    <span>
                                        Balance
                                    </span>
                                </div>
                                <div                 class="payment-details">
<span style="display: flex;justifycontent: space-between;">
                                        <h3>Wallet               Balance</h3>
<button onclick="openBalPopup()" id="myBtn">Add to Wallet</button>
                                    </span>
                                    <div>
```

```
                                        <span id="balance">Loading...</span>

                                    </div>
                                </div>
                            </div>
                            <div class="faq">
                                <h1>Frequently Asked Questions</h1>
                                <div>
                                    <label>Do you lay a strong foundation for
long-term earnings and wealth?</label>
                                    <span style="color:#D1C1C1"
align="justify">Take every learning during college as your investment for the
future. Missing out on even one of those can seriously fritter away that
investment.</span>
                                </div>
                                <div>
```

```
<label>What financial mistakes should one
```



```
refrain from?</label>
                                    <span style="color:#D1C1C1"
align="justify">Ensure that your under graduation loan amount should not
be more than your first year salary. Another mistake to avoid is playing
with credit card.</span>                                 </div>
                                <div>
                                    <label>How to manage debt and boost your
credit score?</label>
                                    <span             style="color:#D1C1C1"
align="justify">Do not be influenced by your peers, but stick to maintaining
your own budget. Take up any campus employment to balance your expenditures
and make a saving, along with offering and gaining valued experience.  </span>
                                </div>
                            </div>
                        </div>
                    </section>
                </div>
            </div>
            <div id="myModal" class="modal">
                <!-- Modal content -->
                <div class="modal-content">
<span class="close"
onclick="delParent(event)">&times;</span>
                    <form onsubmit="updateBalance(event)" style="color:black">
                        <h1 style="font-weight: bolder; font-size:
xlarge;"><center>Modify Wallet Balance</center></h1>
                        <br/>
                        <div style="margin-left:185px; margin-top: 2px;">
                            <label for="amount" style="font-size:
large;"><b>Amount : </b></label>
                            <input type="number" style="margin-left:1px"
placeholder="Enter Amount" name="amount" required />
                            <button type="submit" class="btn">Add</button>
                        </div>
                    </form>
                </div>
            </div>
            <div class="overlay" id="divOne">
                <div class="wrapper">
                    <h2>Please Fill up The Expenses Form</h2><a class="close"
href="#">&times;</a>
                    <div class="content">
                        <div class="container">
```

```
<form onsubmit="addExpense(event)"> <label>Expense
    Category</label>     <select name="category">
```

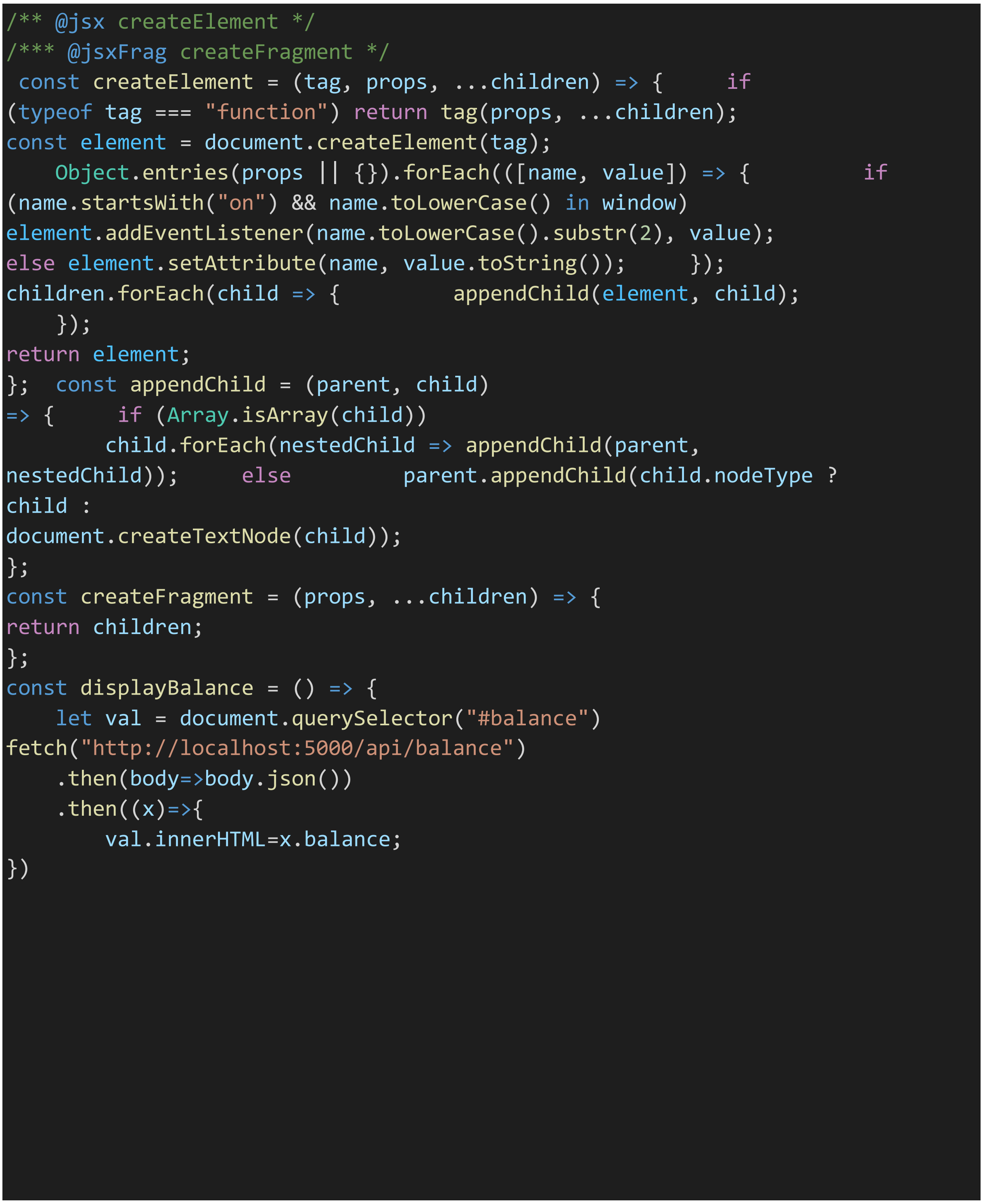
```
                                    <option
value="entertainment">Entertainment</option>
                                    <option value="shopping">Shopping</option>
                                    <option value="emi">EMI</option>
                                    <option value="rent">Rent</option>
                                    <option value="others">Others</option>
                                </select>
                                <label>Date</label><br/>
                                <input    class="popup"    placeholder="Date.."
type="date" required name="date">
                                <label>Location</label>
                                <input   placeholder="Place   of   Purchase..."
type="text" class="popup">
                                <label>Amount</label> <br/>
<input class="popup" type="number" placeholder="Enter Amount..."
name="amount" required />
                                <input class="popup" type="submit" value="Add
Expense">
                            </form>
                        </div>
                    </div>
                </div>
            </div>
            <!-- partial -->
            <script src='https://unpkg.com/phosphor-icons'></script>
            <script
src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
<script type="text/babel" src="{{ url_for('static',
filename='/js/script.dashboard.js') }}"></script>
            <script>
                window.watsonAssistantChatOptions = {
                  integrationID: "8f7293cb-e55e-49e7-a937-915057242eca", //
The ID of this integration.
                  region: "au-syd", // The region your integration is hosted
in.
                  serviceInstanceID: "68106b4c-302a-41d4-bdf5-00458ba09a25",
// The ID of your service instance.                   onLoad:
function(instance) { instance.render(); }
                };
                setTimeout(function(){
const t=document.createElement('script');

t.src="https://webchat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
```

```
                                                    <option
                                  value="food">Food</option>
```

```
document.head.appendChild(t);
```

```
                });
            </script>
    </body>
</html>
```

Java Script File to work as API:



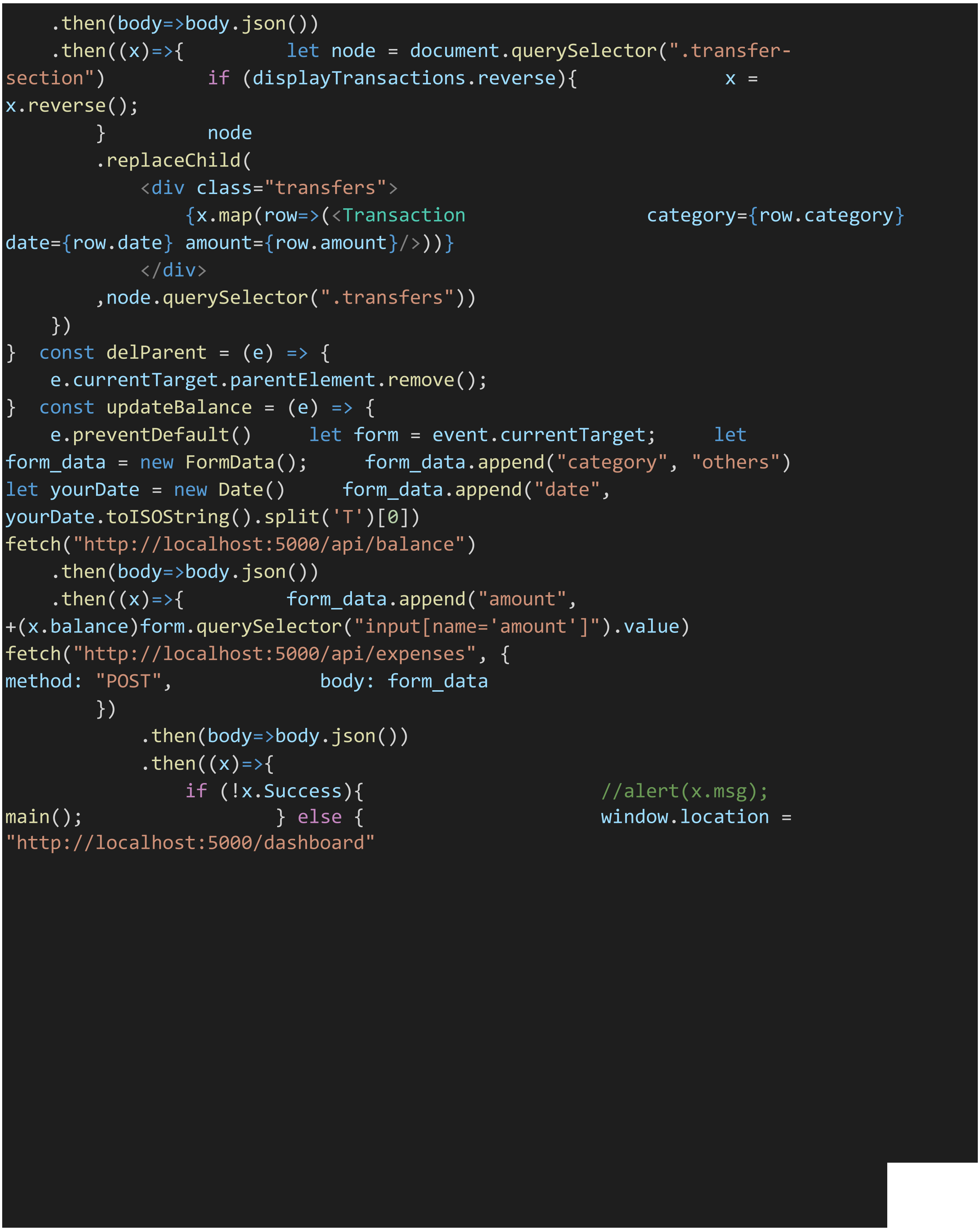
```
/** @jsx createElement */
/*** @jsxFrag createFragment */
 const createElement = (tag, props, ...children) => {      if
(typeof tag === "function") return tag(props, ...children);
const element = document.createElement(tag);
    Object.entries(props || {}).forEach(([name, value]) => {          if
(name.startsWith("on") && name.toLowerCase() in window)
element.addEventListener(name.toLowerCase().substr(2), value);
else element.setAttribute(name, value.toString());     });
children.forEach(child => {         appendChild(element, child);
    });
return element;
};  const appendChild = (parent, child)
=> {     if (Array.isArray(child))
        child.forEach(nestedChild => appendChild(parent,
nestedChild));     else         parent.appendChild(child.nodeType ?
child :
document.createTextNode(child));
};
const createFragment = (props, ...children) => {
return children;
};
const displayBalance = () => {
    let val = document.querySelector("#balance")
fetch("http://localhost:5000/api/balance")
    .then(body=>body.json())
    .then((x)=>{
        val.innerHTML=x.balance;
})
```

```
}  const displayName = ()
=> {
    let val = document.querySelector("#user_name")
fetch("http://localhost:5000/api/session")
    .then(body=>body.json())
    .then((x)=>{
if ("name" in x){
            val.innerHTML=x.name;
        } else {             window.location =
"http://localhost:5000"
        }
    })
}  const Transaction = (props)
=> (
    <div class="transfer">
        <div class="transfer-logo">
            <img
src="https://upload.wikimedia.org/wikipedia/commons/3/3e/Dollar_sign_in_circle
.svg" />
        </div>
        <dl class="transfer-details">
            <div>
                <dt>{props? props.category : "other"}</dt>
                <dd>{props? props.category : "other"}</dd>
            </div>
            <div>
                <dt>{props? props.date : ""}</dt>
                <dd>Date payment</dd>
            </div>
        </dl>
        <div class="transfer-number">
            {props? props.amount : 0}
        </div>
    </div>
)  const reverseTransactions = () => {
displayTransactions(displayTransactions.reverse); }
const displayTransactions = (bool) => {     if
(bool===true) {         displayTransactions.reverse =
false;
    }
```

[redacted]

```
if (bool===false){
displayTransactions.reverse = true; }  let
val = document.querySelector("#balance")
fetch("http://localhost:5000/api/expenses")
```

[redacted]



```
    .then(body=>body.json())
    .then((x)=>{         let node = document.querySelector(".transfer-
section")         if (displayTransactions.reverse){             x =
x.reverse();
        }         node
        .replaceChild(
            <div class="transfers">
                {x.map(row=>(<Transaction                category={row.category}
date={row.date} amount={row.amount}/>))}
            </div>
        ,node.querySelector(".transfers"))
    })
}  const delParent = (e) => {
    e.currentTarget.parentElement.remove();
}  const updateBalance = (e) => {
    e.preventDefault()     let form = event.currentTarget;     let
form_data = new FormData();     form_data.append("category", "others")
let yourDate = new Date()     form_data.append("date",
yourDate.toISOString().split('T')[0])
fetch("http://localhost:5000/api/balance")
    .then(body=>body.json())
    .then((x)=>{         form_data.append("amount",
+(x.balance)form.querySelector("input[name='amount']").value)
fetch("http://localhost:5000/api/expenses", {
method: "POST",             body: form_data
        })
            .then(body=>body.json())
            .then((x)=>{
                if (!x.Success){                    //alert(x.msg);
main();                 } else {                    window.location =
"http://localhost:5000/dashboard"
```

[redacted]

```
                }
            })
    })
}
```

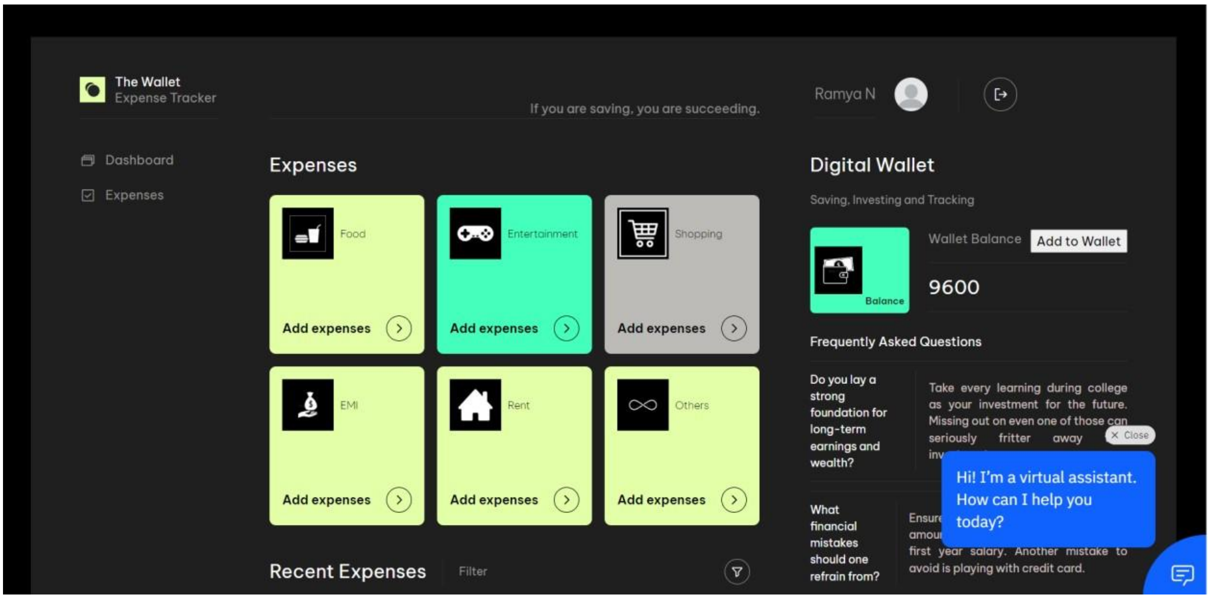
[redacted]

```
const addExpense = (e) => {
    e.preventDefault()      let form =
event.currentTarget;
fetch("http://localhost:5000/api/expenses", {
method: "POST",
        body: new FormData(form)
    })
    .then(body=>body.json())
    .then((x)=>{
        if (!x.Success){              //alert(x.msg);
main();         } else {              window.location =
"http://localhost:5000/dashboard"
        }
    })
}  const openBalPopup = (e) => {      var modal =
document.getElementById("myModal");      var btn =
document.getElementById("myBtn");      var span =
document.getElementsByClassName("close")[0];      btn.onclick =
function() {          modal.style.display = "block";
document.querySelector("body").style.overflow="hidden";
    }     span.onclick = function() {
modal.style.display = "none";
document.querySelector("body").style.overflow="unset";      }

}  const logout = () => {
fetch("http://localhost:5000/api/session",{
method: "DELETE"
    })
    .then(()=>{
        window.location = "http://localhost:5000/"
    })
}  const main = ()
=> {
```

```
displayBalance()
displayTransactions.reverse = true;
```

```
    displayTransactions()
 displayName()
}
 window.onload =
main

main()
```

Output:



If you are saving, you are succeeding.

Expenses

Digital Wallet

Saving, Investing and Tracking

9600

Frequently Asked Questions

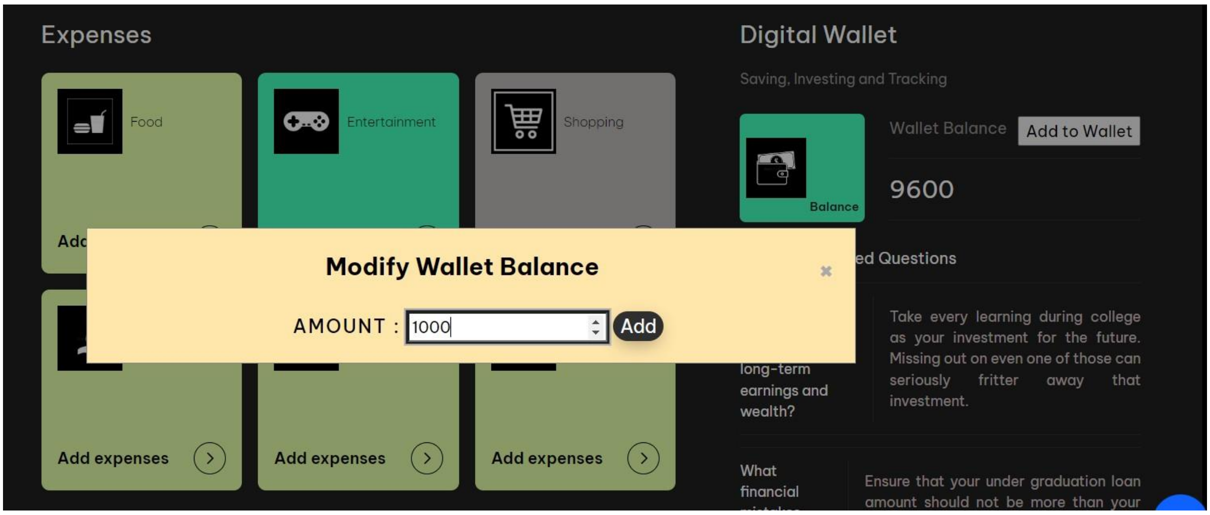
Do you lay a strong foundation for long-term earnings and wealth?

Take every learning during college as your investment for the future. Missing out on even one of those can seriously fritter away inv

What financial mistakes should one refrain from?

Ensure amou first year salary. Another mistake to avoid is playing with credit card.

Hi! I'm a virtual assistant. How can I help you today?



Expenses

Digital Wallet

Saving, Investing and Tracking

9600

Modify Wallet Balance

AMOUNT : 1000

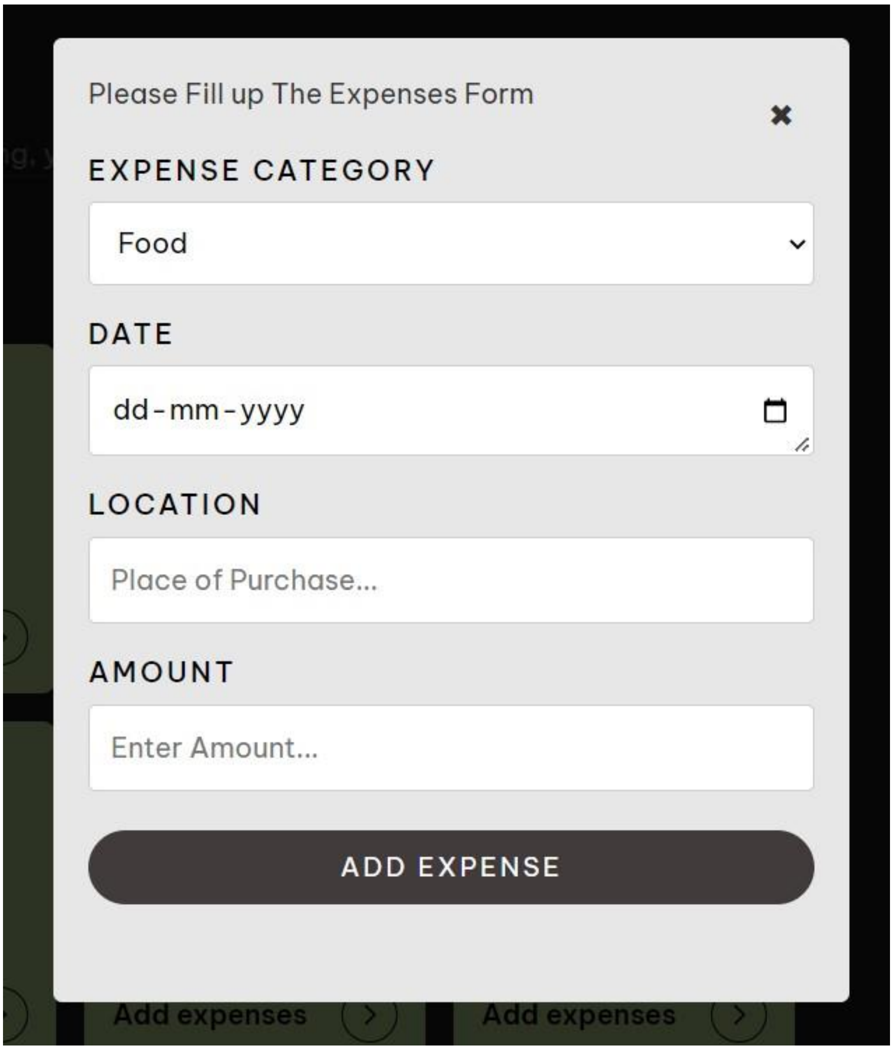
ed Questions

long-term earnings and wealth?

Take every learning during college as your investment for the future. Missing out on even one of those can seriously fritter away that investment.

What financial

Ensure that your under graduation loan amount should not be more than your



Please Fill up The Expenses Form

✖

EXPENSE CATEGORY

Food ⌄

DATE

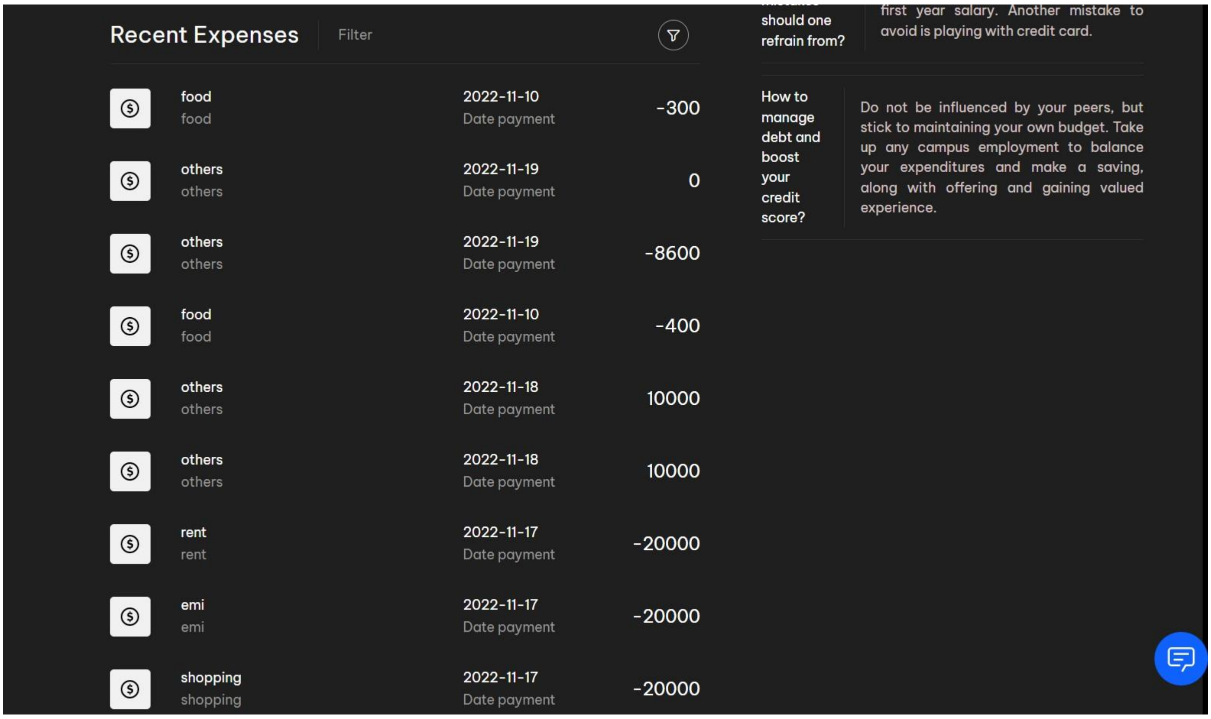
dd-mm-yyyy

LOCATION

Place of Purchase...

AMOUNT

Enter Amount...

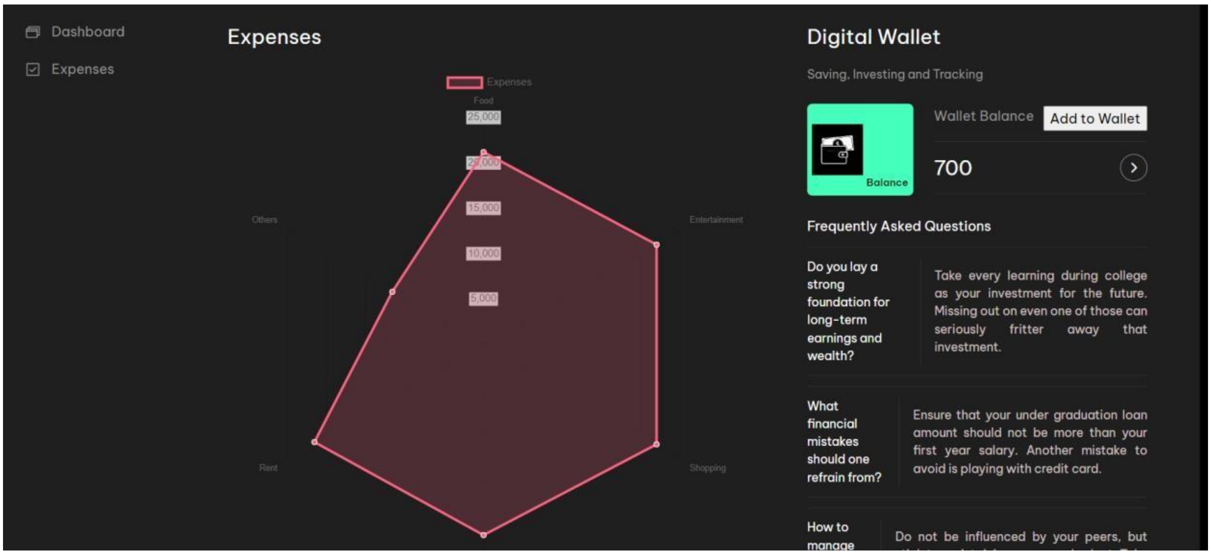


Recent Expenses   Filter

food food	2022-11-10 Date payment	-300
others others	2022-11-19 Date payment	0
others others	2022-11-19 Date payment	-8600
food food	2022-11-10 Date payment	-400
others others	2022-11-18 Date payment	10000
others others	2022-11-18 Date payment	10000
rent rent	2022-11-17 Date payment	-20000
emi emi	2022-11-17 Date payment	-20000
shopping shopping	2022-11-17 Date payment	-20000

should one refrain from?	first year salary. Another mistake to avoid is playing with credit card.
How to manage debt and boost your credit score?	Do not be influenced by your peers, but stick to maintaining your own budget. Take up any campus employment to balance your expenditures and make a saving, along with offering and gaining valued experience.

Graphical Representation of Expenses:



Digital Wallet

Saving, Investing and Tracking

Wallet Balance

700

Frequently Asked Questions

Do you lay a strong foundation for long-term earnings and wealth?

Take every learning during college as your investment for the future. Missing out on even one of those can seriously fritter away that investment.

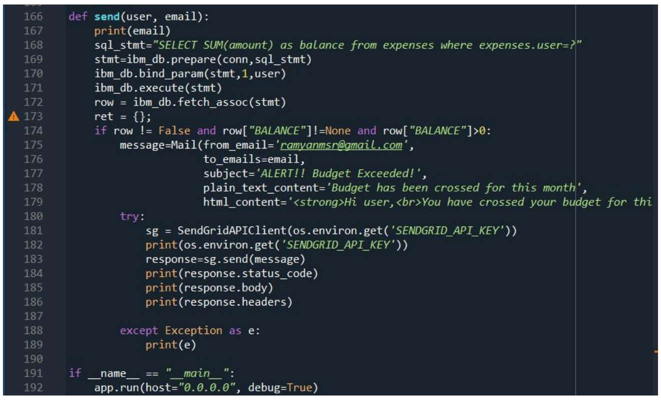
What financial mistakes should one refrain from?

Ensure that your under graduation loan amount should not be more than your first year salary. Another mistake to avoid is playing with credit card.

How to manage

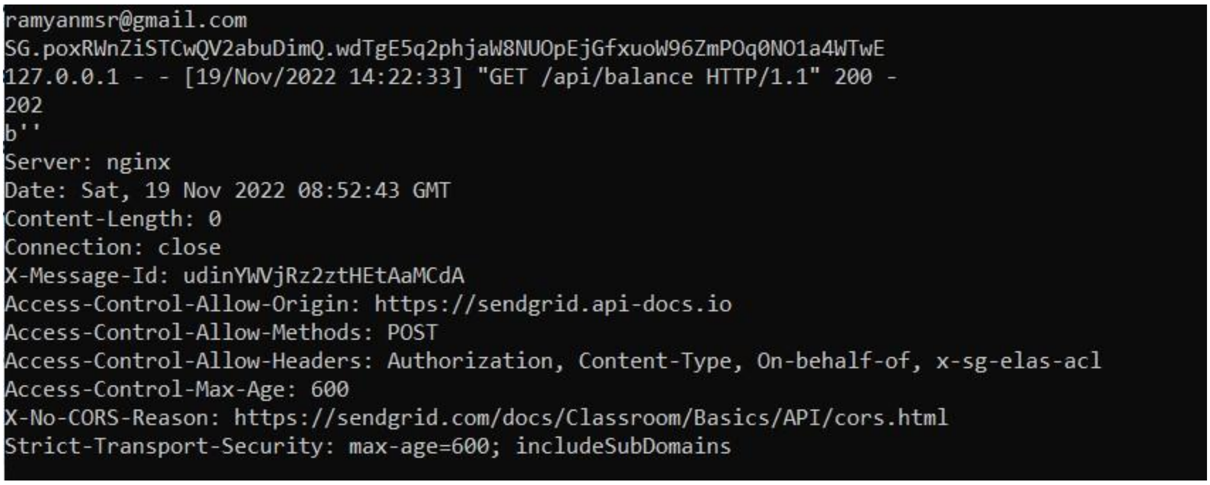
Do not be influenced by your peers, but

- **Integrate Sendgrid and send emails using Sendgrid** Source Code:

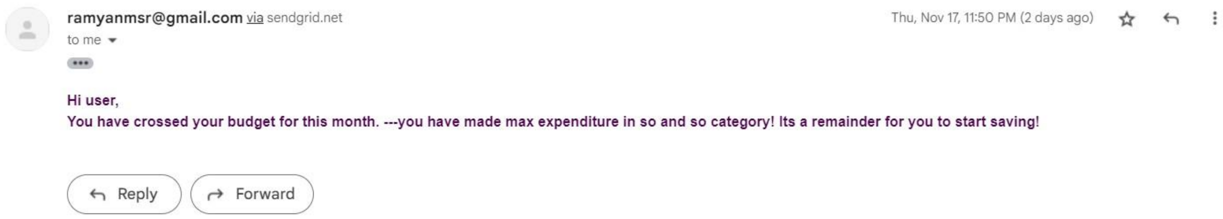


```
def send(user, email):
    print(email)
    sql_stmt="SELECT SUM(amount) as balance from expenses where expenses.user=?"
    stmt=ibm_db.prepare(conn,sql_stmt)
    ibm_db.bind_param(stmt,1,user)
    ibm_db.execute(stmt)
    row = ibm_db.fetch_assoc(stmt)
    ret = {};
    if row != False and row["BALANCE"]!=None and row["BALANCE"]>0:
        message=Mail(from_email='ramyanmsr@gmail.com',
                     to_emails=email,
                     subject='ALERT!! Budget Exceeded!',
                     plain_text_content='Budget has been crossed for this month',
                     html_content='<strong>Hi user,<br>You have crossed your budget for thi
        try:
            sg = SendGridAPIClient(os.environ.get('SENDGRID_API_KEY'))
            print(os.environ.get('SENDGRID_API_KEY'))
            response=sg.send(message)
            print(response.status_code)
            print(response.body)
            print(response.headers)

        except Exception as e:
            print(e)

if __name__ == "__main__":
    app.run(host="0.0.0.0", debug=True)
```

If expenditure exceeds the budget, a notification will be sent as an email:



```
ramyanmsr@gmail.com
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
127.0.0.1 - - [19/Nov/2022 14:22:33] "GET /api/balance HTTP/1.1" 200 -
202
b''
Server: nginx
Date: Sat, 19 Nov 2022 08:52:43 GMT
Content-Length: 0
Connection: close
X-Message-Id: udinYWVjRz2ztHEtAaMCdA
Access-Control-Allow-Origin: https://sendgrid.api-docs.io
Access-Control-Allow-Methods: POST
Access-Control-Allow-Headers: Authorization, Content-Type, On-behalf-of, x-sg-elas-acl
Access-Control-Max-Age: 600
X-No-CORS-Reason: https://sendgrid.com/docs/Classroom/Basics/API/cors.html
Strict-Transport-Security: max-age=600; includeSubDomains
```



ramyanmsr@gmail.com via sendgrid.net

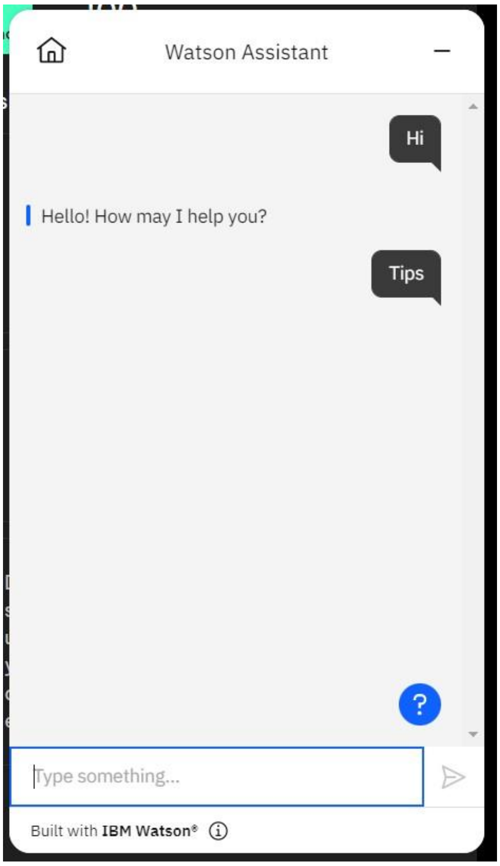
to me

Thu, Nov 17, 11:50 PM (2 days ago)

Hi user,

You have crossed your budget for this month. ---you have made max expenditure in so and so category! Its a remainder for you to start saving!

- **Integrating Chatbot (IBM Watson) with the Application**



Hi

Hello! How may I help you?

Tips