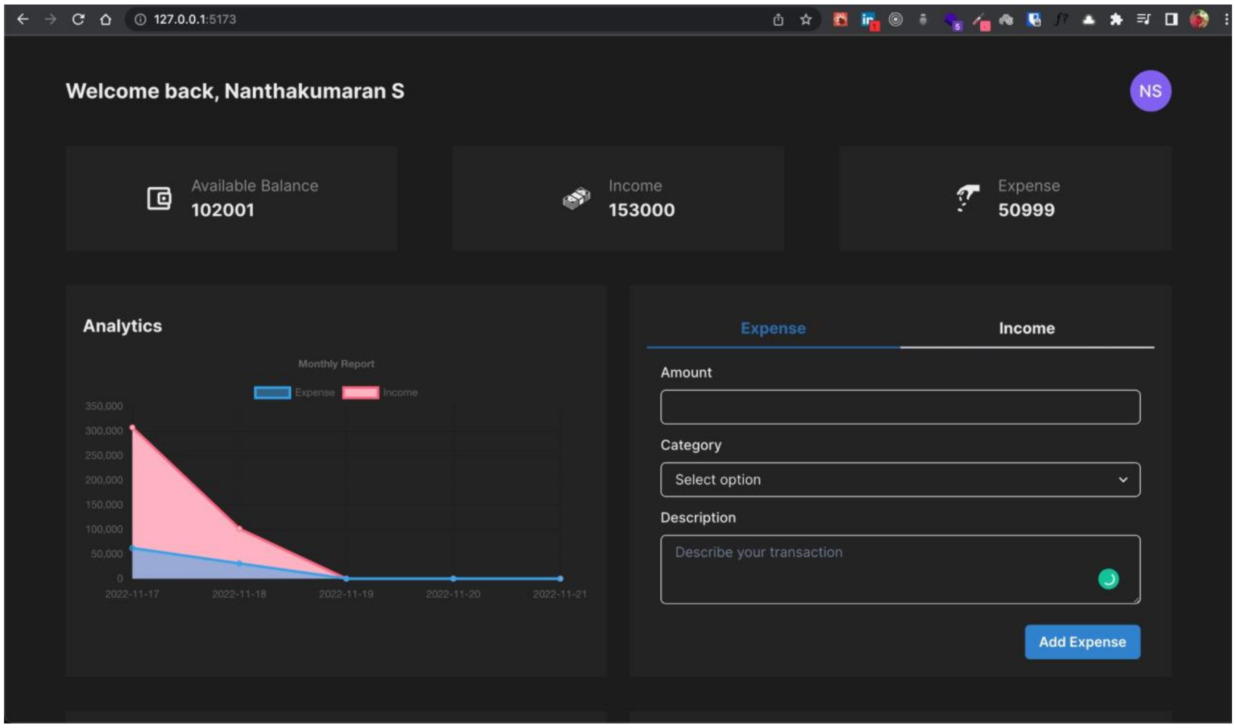
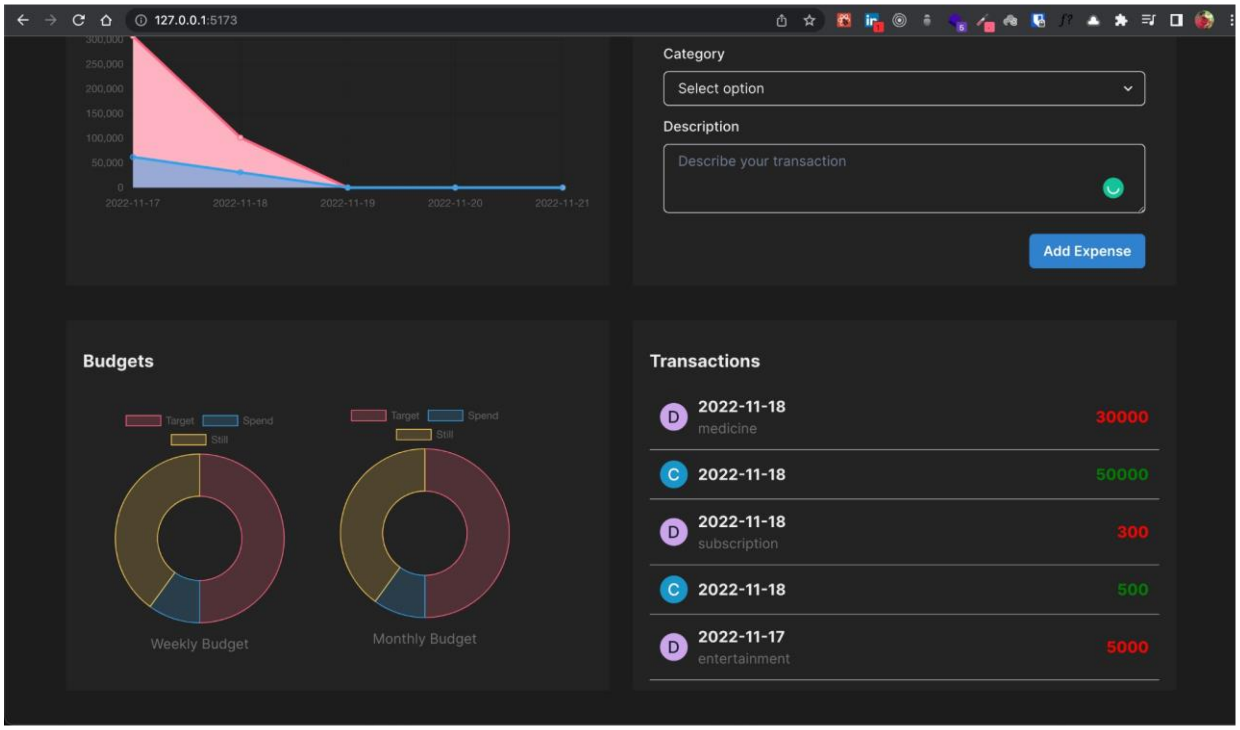
Project Development phase - Sprint 3

Team ID	PNT2022TMID20278
Project Name	Personal Expense Tracker

Analytics of expense and income

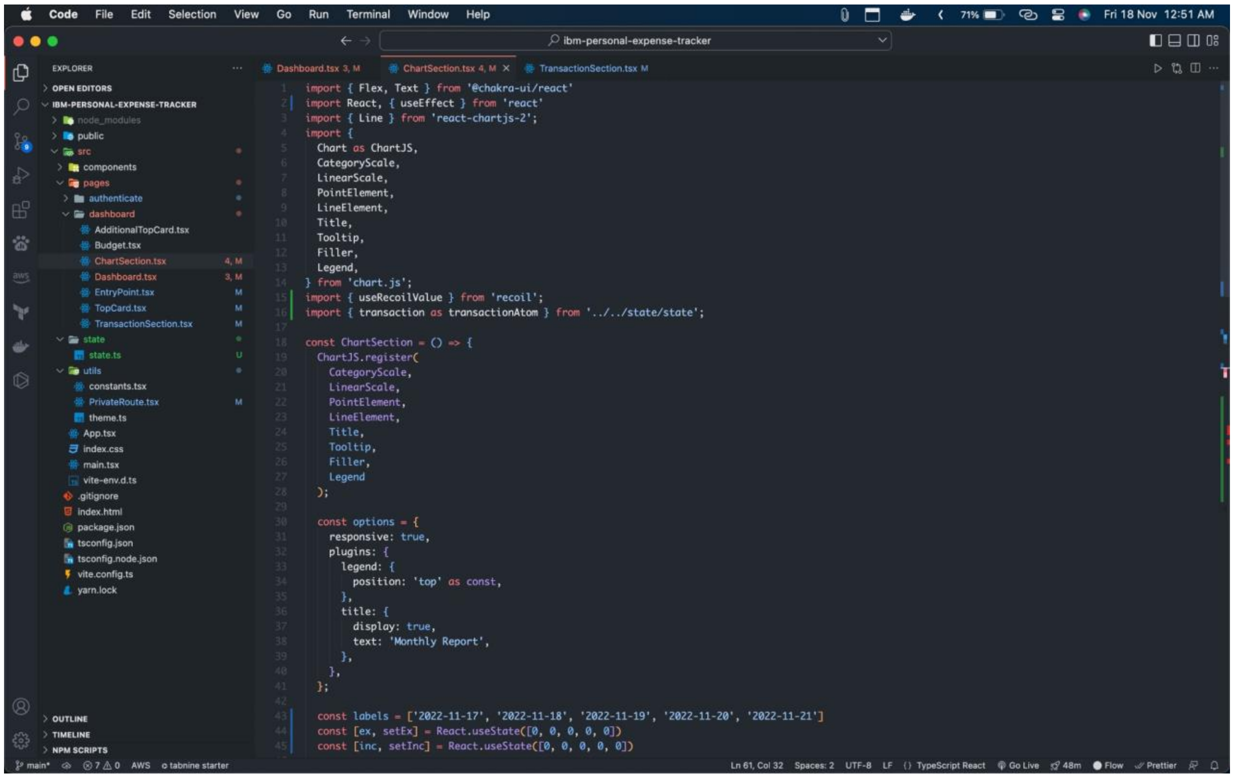


Analytics of budget & Transaction History

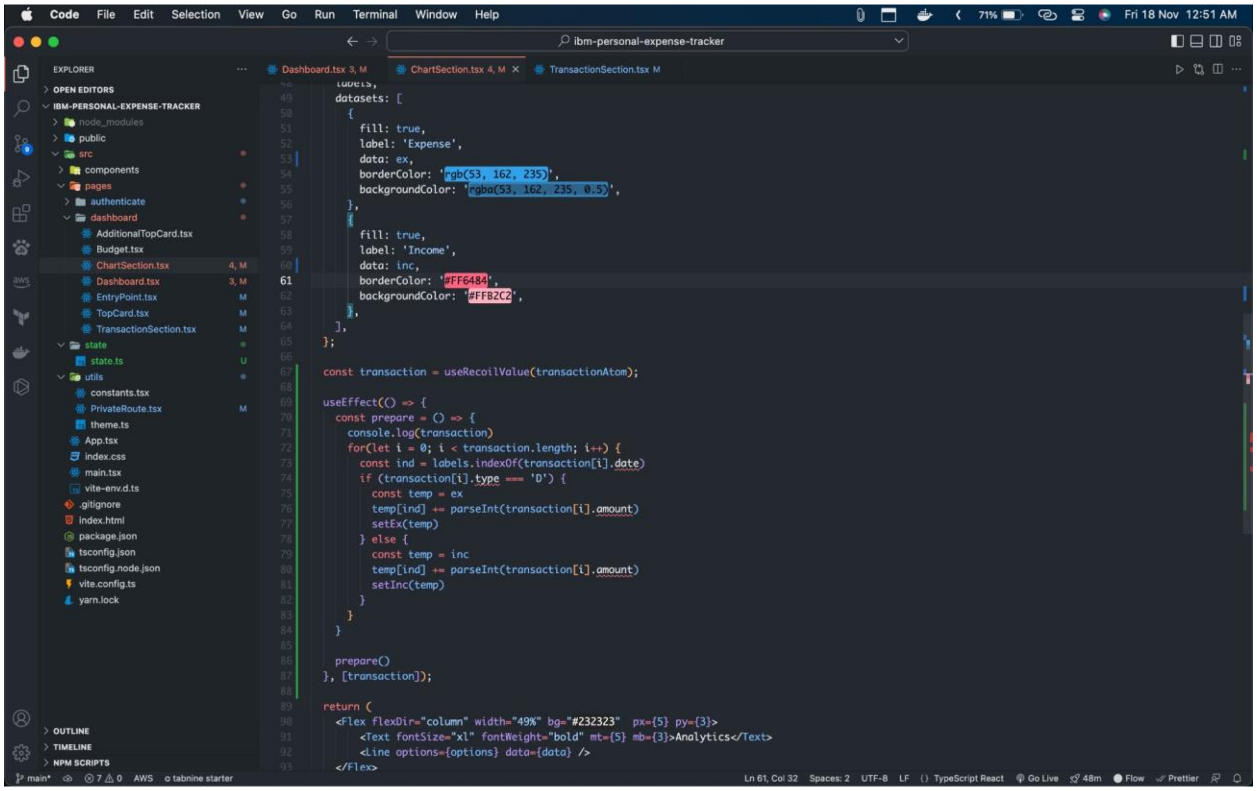


D	2022-11-18 medicine	30000
C	2022-11-18	50000
D	2022-11-18 subscription	300
C	2022-11-18	500
D	2022-11-17 entertainment	5000

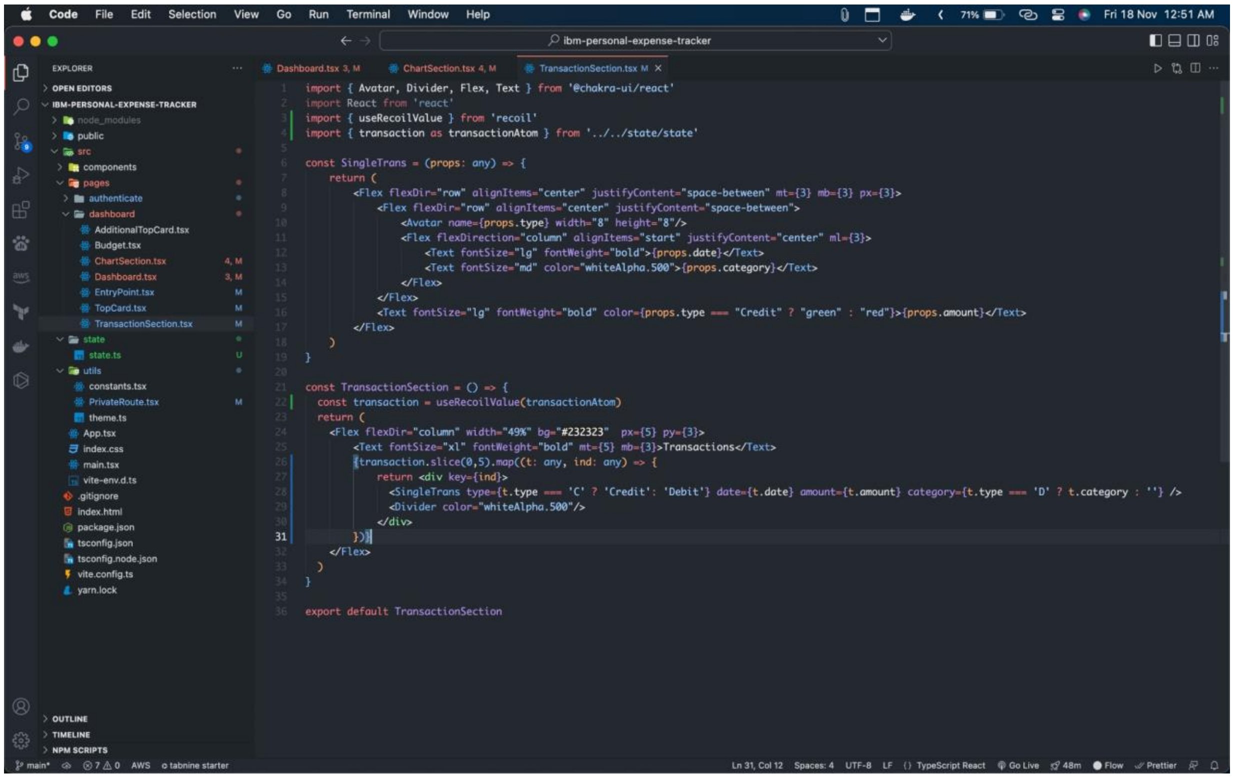
FrontEnd Code



```tsx
import { Flex, Text } from '@chakra-ui/react'
import React, { useEffect } from 'react'
import { Line } from 'react-chartjs-2';
import {
  Chart as ChartJS,
  CategoryScale,
  LinearScale,
  PointElement,
  LineElement,
  Title,
  Tooltip,
  Filler,
  Legend,
} from 'chart.js';
import { useRecoilValue } from 'recoil';
import { transaction as transactionAtom } from '../../state/state';

const ChartSection = () => {
  ChartJS.register(
    CategoryScale,
    LinearScale,
    PointElement,
    LineElement,
    Title,
    Tooltip,
    Filler,
    Legend
  );

  const options = {
    responsive: true,
    plugins: {
      legend: {
        position: 'top' as const,
      },
      title: {
        display: true,
        text: 'Monthly Report',
      },
    },
  };

  const labels = ['2022-11-17', '2022-11-18', '2022-11-19', '2022-11-20', '2022-11-21']
  const [ex, setEx] = React.useState([0, 0, 0, 0, 0])
  const [inc, setInc] = React.useState([0, 0, 0, 0, 0])
```

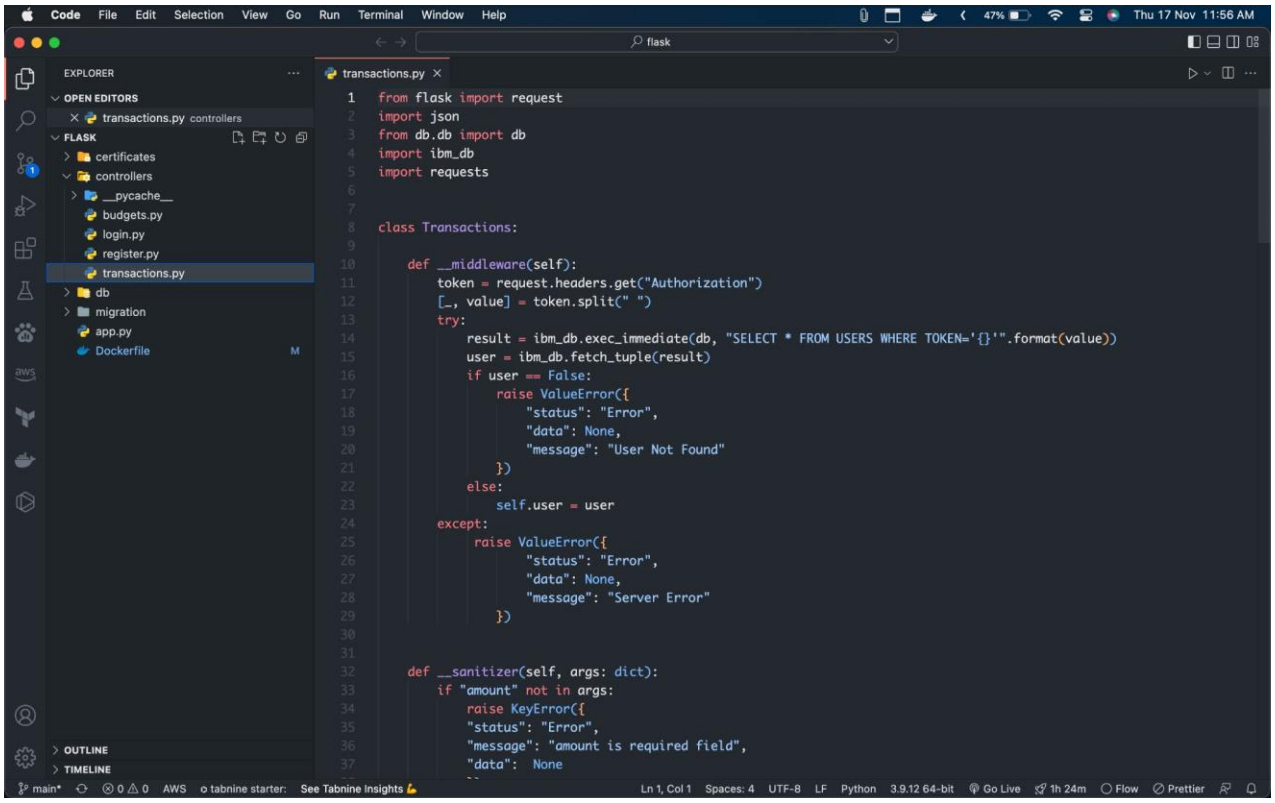

ibm-personal-expense-tracker
Dashboard.tsx 3, M
ChartSection.tsx 4, M
TransactionSection.tsx M
Ln 61, Col 32 Spaces: 2 UTF-8 LF TypeScript React

```tsx
    datasets: [
      {
        fill: true,
        label: 'Expense',
        data: ex,
        borderColor: 'rgb(53, 162, 235)',
        backgroundColor: 'rgba(53, 162, 235, 0.5)',
      },
      {
        fill: true,
        label: 'Income',
        data: inc,
        borderColor: '#FF6484',
        backgroundColor: '#FFB2C2',
      },
    ],
  };

  const transaction = useRecoilValue(transactionAtom);

  useEffect(() => {
    const prepare = () => {
      console.log(transaction)
      for(let i = 0; i < transaction.length; i++) {
        const ind = labels.indexOf(transaction[i].date)
        if (transaction[i].type === 'D') {
          const temp = ex
          temp[ind] += parseInt(transaction[i].amount)
          setEx(temp)
        } else {
          const temp = inc
          temp[ind] += parseInt(transaction[i].amount)
          setInc(temp)
        }
      }
    }

    prepare()
  }, [transaction]);

  return (
    <Flex flexDir="column" width="49%" bg="#232323"  px={5} py={3}>
        <Text fontSize="xl" fontWeight="bold" mt={5} mb={3}>Analytics</Text>
        <Line options={options} data={data} />
    </Flex>
```

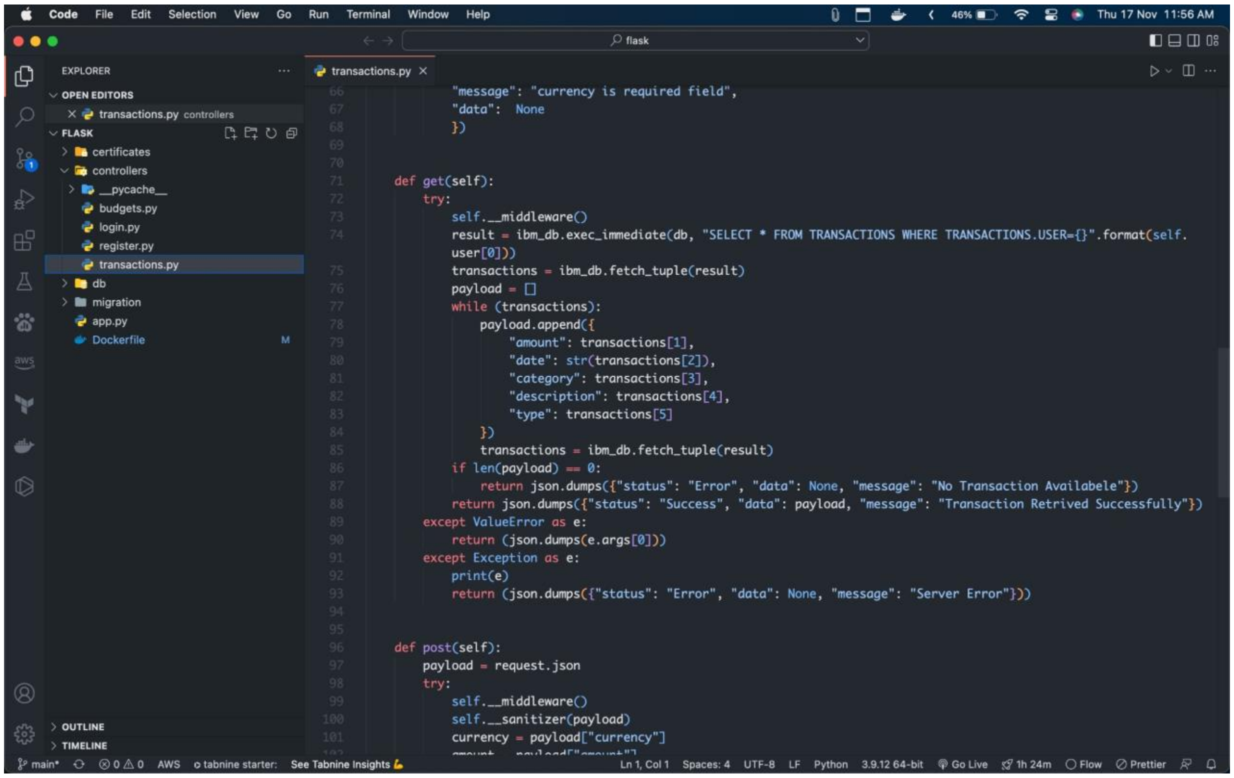

ibm-personal-expense-tracker
Dashboard.tsx 3, M
ChartSection.tsx 4, M
TransactionSection.tsx M
Ln 31, Col 12 Spaces: 4 UTF-8 LF TypeScript React

```tsx
import { Avatar, Divider, Flex, Text } from '@chakra-ui/react'
import React from 'react'
import { useRecoilValue } from 'recoil'
import { transaction as transactionAtom } from '../../state/state'

const SingleTrans = (props: any) => {
    return (
        <Flex flexDir="row" alignItems="center" justifyContent="space-between" mt={3} mb={3} px={3}>
            <Flex flexDir="row" alignItems="center" justifyContent="space-between">
                <Avatar name={props.type} width="8" height="8"/>
                <Flex flexDirection="column" alignItems="start" justifyContent="center" ml={3}>
                    <Text fontSize="lg" fontWeight="bold">{props.date}</Text>
                    <Text fontSize="md" color="whiteAlpha.500">{props.category}</Text>
                </Flex>
            </Flex>
            <Text fontSize="lg" fontWeight="bold" color={props.type === "Credit" ? "green" : "red"}>{props.amount}</Text>
        </Flex>
    )
}

const TransactionSection = () => {
  const transaction = useRecoilValue(transactionAtom)
  return (
    <Flex flexDir="column" width="49%" bg="#232323"  px={5} py={3}>
        <Text fontSize="xl" fontWeight="bold" mt={5} mb={3}>Transactions</Text>
        {transaction.slice(0,5).map((t: any, ind: any) => {
            return <div key={ind}>
              <SingleTrans type={t.type === 'C' ? 'Credit': 'Debit'} date={t.date} amount={t.amount} category={t.type === 'D' ? t.category : ''} />
              <Divider color="whiteAlpha.500"/>
            </div>
        })}
    </Flex>
  )
}

export default TransactionSection
```

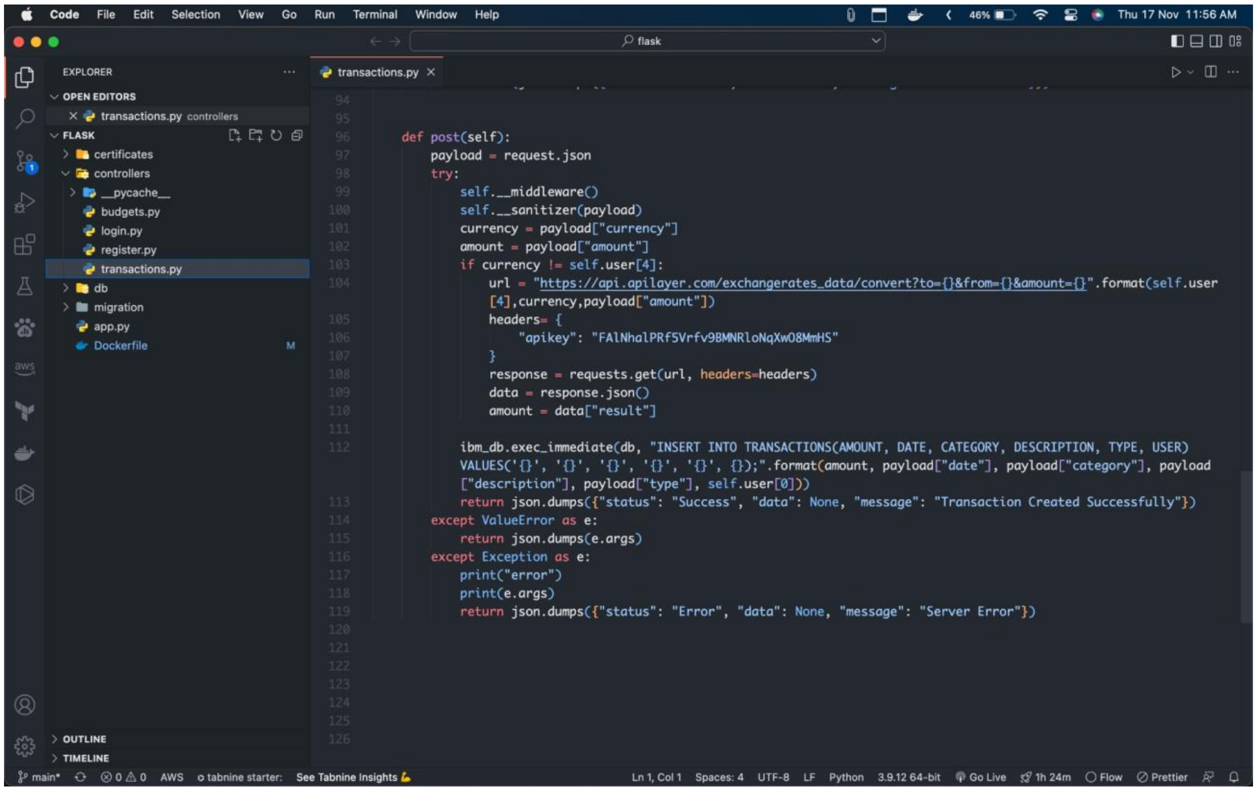
Flask Code



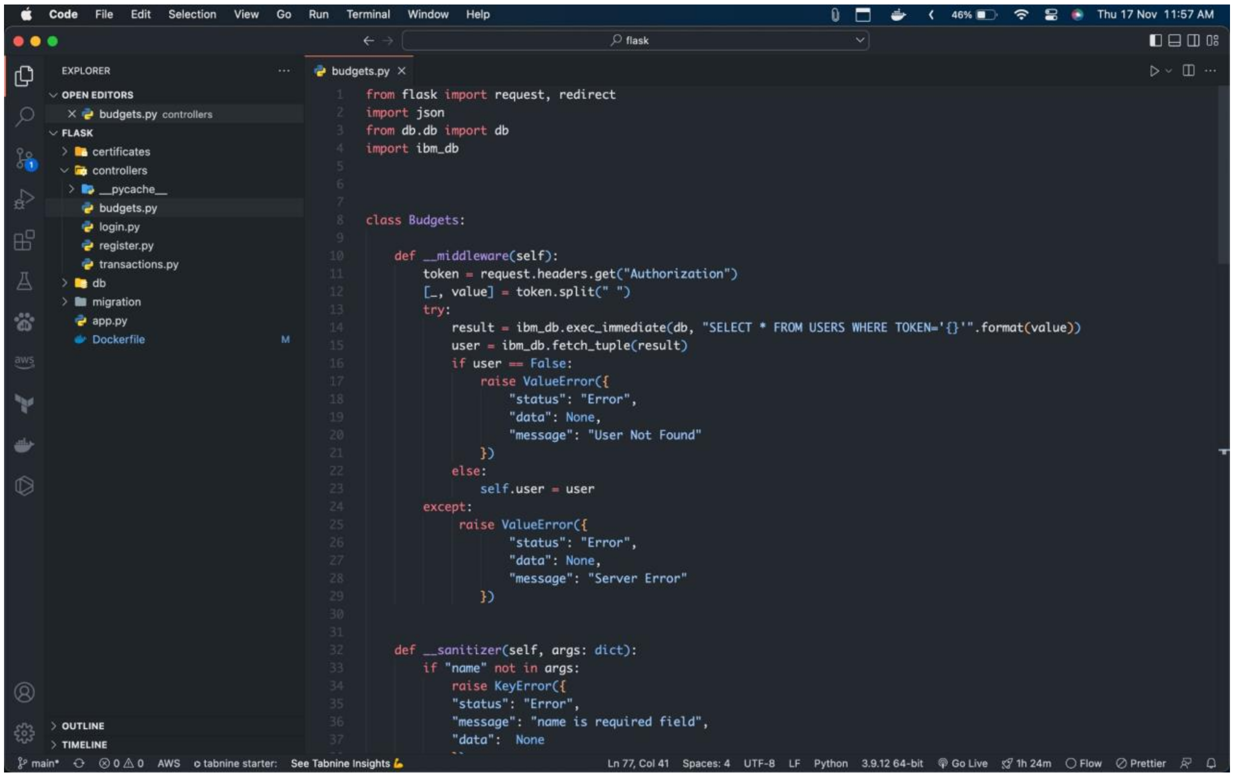
```python
from flask import request
import json
from db.db import db
import ibm_db
import requests


class Transactions:

    def __middleware(self):
        token = request.headers.get("Authorization")
        [_, value] = token.split(" ")
        try:
            result = ibm_db.exec_immediate(db, "SELECT * FROM USERS WHERE TOKEN='{}'".format(value))
            user = ibm_db.fetch_tuple(result)
            if user == False:
                raise ValueError({
                    "status": "Error",
                    "data": None,
                    "message": "User Not Found"
                })
            else:
                self.user = user
        except:
             raise ValueError({
                    "status": "Error",
                    "data": None,
                    "message": "Server Error"
                })


    def __sanitizer(self, args: dict):
        if "amount" not in args:
            raise KeyError({
            "status": "Error",
            "message": "amount is required field",
            "data":  None
```



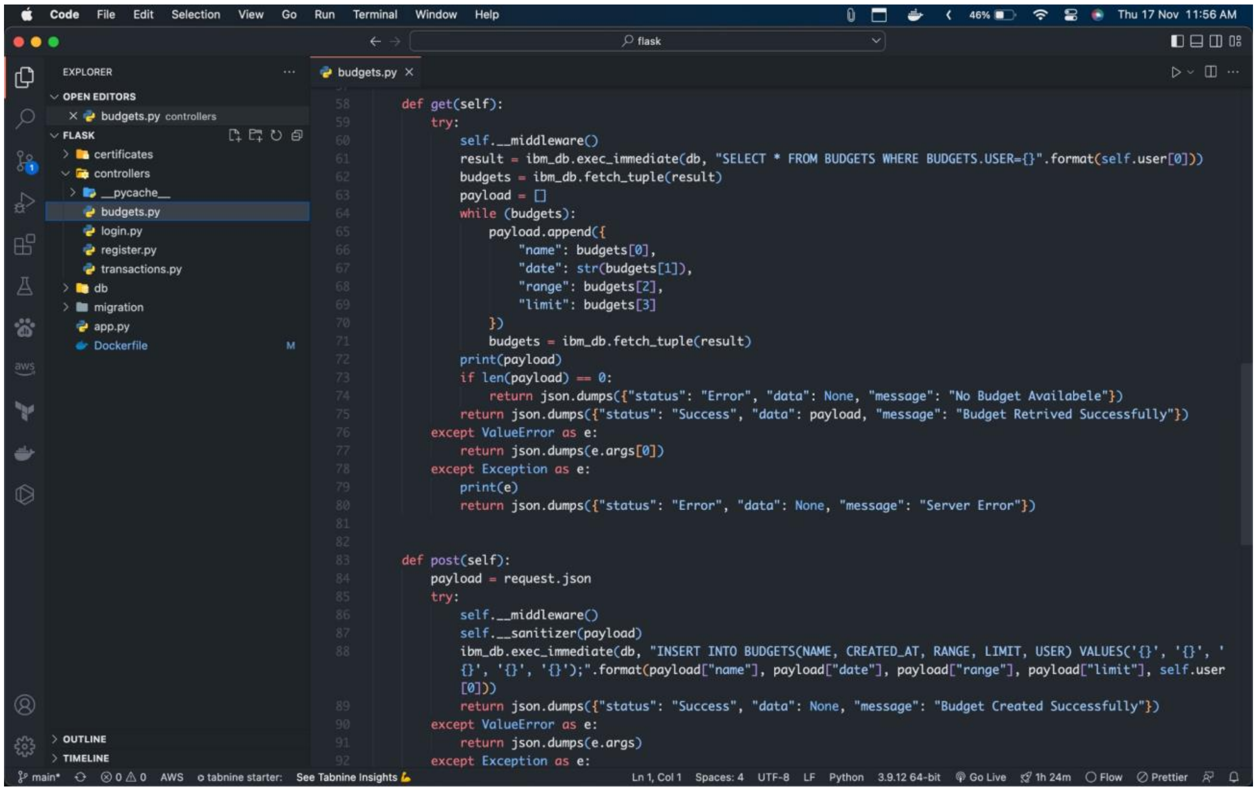
```python
            "message": "currency is required field",
            "data":  None
            })


    def get(self):
        try:
            self.__middleware()
            result = ibm_db.exec_immediate(db, "SELECT * FROM TRANSACTIONS WHERE TRANSACTIONS.USER={}".format(self.user[0]))
            transactions = ibm_db.fetch_tuple(result)
            payload = []
            while (transactions):
                payload.append({
                    "amount": transactions[1],
                    "date": str(transactions[2]),
                    "category": transactions[3],
                    "description": transactions[4],
                    "type": transactions[5]
                })
                transactions = ibm_db.fetch_tuple(result)
            if len(payload) == 0:
                return json.dumps({"status": "Error", "data": None, "message": "No Transaction Availabele"})
            return json.dumps({"status": "Success", "data": payload, "message": "Transaction Retrived Successfully"})
        except ValueError as e:
            return (json.dumps(e.args[0]))
        except Exception as e:
            print(e)
            return (json.dumps({"status": "Error", "data": None, "message": "Server Error"}))


    def post(self):
        payload = request.json
        try:
            self.__middleware()
            self.__sanitizer(payload)
            currency = payload["currency"]
```



```python
    def post(self):
        payload = request.json
        try:
            self.__middleware()
            self.__sanitizer(payload)
            currency = payload["currency"]
            amount = payload["amount"]
            if currency != self.user[4]:
                url = "https://api.apilayer.com/exchangerates_data/convert?to={}&from={}&amount={}".format(self.user[4],currency,payload["amount"])
                headers= {
                    "apikey": "FAlNhalPRf5Vrfv9BMNRloNqXwO8MmHS"
                }
                response = requests.get(url, headers=headers)
                data = response.json()
                amount = data["result"]

            ibm_db.exec_immediate(db, "INSERT INTO TRANSACTIONS(AMOUNT, DATE, CATEGORY, DESCRIPTION, TYPE, USER) VALUES('{}', '{}', '{}', '{}', '{}', {});".format(amount, payload["date"], payload["category"], payload["description"], payload["type"], self.user[0]))
            return json.dumps({"status": "Success", "data": None, "message": "Transaction Created Successfully"})
        except ValueError as e:
            return json.dumps(e.args)
        except Exception as e:
            print("error")
            print(e.args)
            return json.dumps({"status": "Error", "data": None, "message": "Server Error"})
```



```python
from flask import request, redirect
import json
from db.db import db
import ibm_db



class Budgets:

    def __middleware(self):
        token = request.headers.get("Authorization")
        [_, value] = token.split(" ")
        try:
            result = ibm_db.exec_immediate(db, "SELECT * FROM USERS WHERE TOKEN='{}'".format(value))
            user = ibm_db.fetch_tuple(result)
            if user == False:
                raise ValueError({
                    "status": "Error",
                    "data": None,
                    "message": "User Not Found"
                })
            else:
                self.user = user
        except:
             raise ValueError({
                    "status": "Error",
                    "data": None,
                    "message": "Server Error"
                })


    def __sanitizer(self, args: dict):
        if "name" not in args:
            raise KeyError({
            "status": "Error",
            "message": "name is required field",
            "data":  None
```



```python
    def get(self):
        try:
            self.__middleware()
            result = ibm_db.exec_immediate(db, "SELECT * FROM BUDGETS WHERE BUDGETS.USER={}".format(self.user[0]))
            budgets = ibm_db.fetch_tuple(result)
            payload = []
            while (budgets):
                payload.append({
                    "name": budgets[0],
                    "date": str(budgets[1]),
                    "range": budgets[2],
                    "limit": budgets[3]
                })
                budgets = ibm_db.fetch_tuple(result)
            print(payload)
            if len(payload) == 0:
                return json.dumps({"status": "Error", "data": None, "message": "No Budget Availabele"})
            return json.dumps({"status": "Success", "data": payload, "message": "Budget Retrived Successfully"})
        except ValueError as e:
            return json.dumps(e.args[0])
        except Exception as e:
            print(e)
            return json.dumps({"status": "Error", "data": None, "message": "Server Error"})


    def post(self):
        payload = request.json
        try:
            self.__middleware()
            self.__sanitizer(payload)
            ibm_db.exec_immediate(db, "INSERT INTO BUDGETS(NAME, CREATED_AT, RANGE, LIMIT, USER) VALUES('{}', '{}', '{}', '{}', '{}');".format(payload["name"], payload["date"], payload["range"], payload["limit"], self.user[0]))
            return json.dumps({"status": "Success", "data": None, "message": "Budget Created Successfully"})
        except ValueError as e:
            return json.dumps(e.args)
        except Exception as e:
```