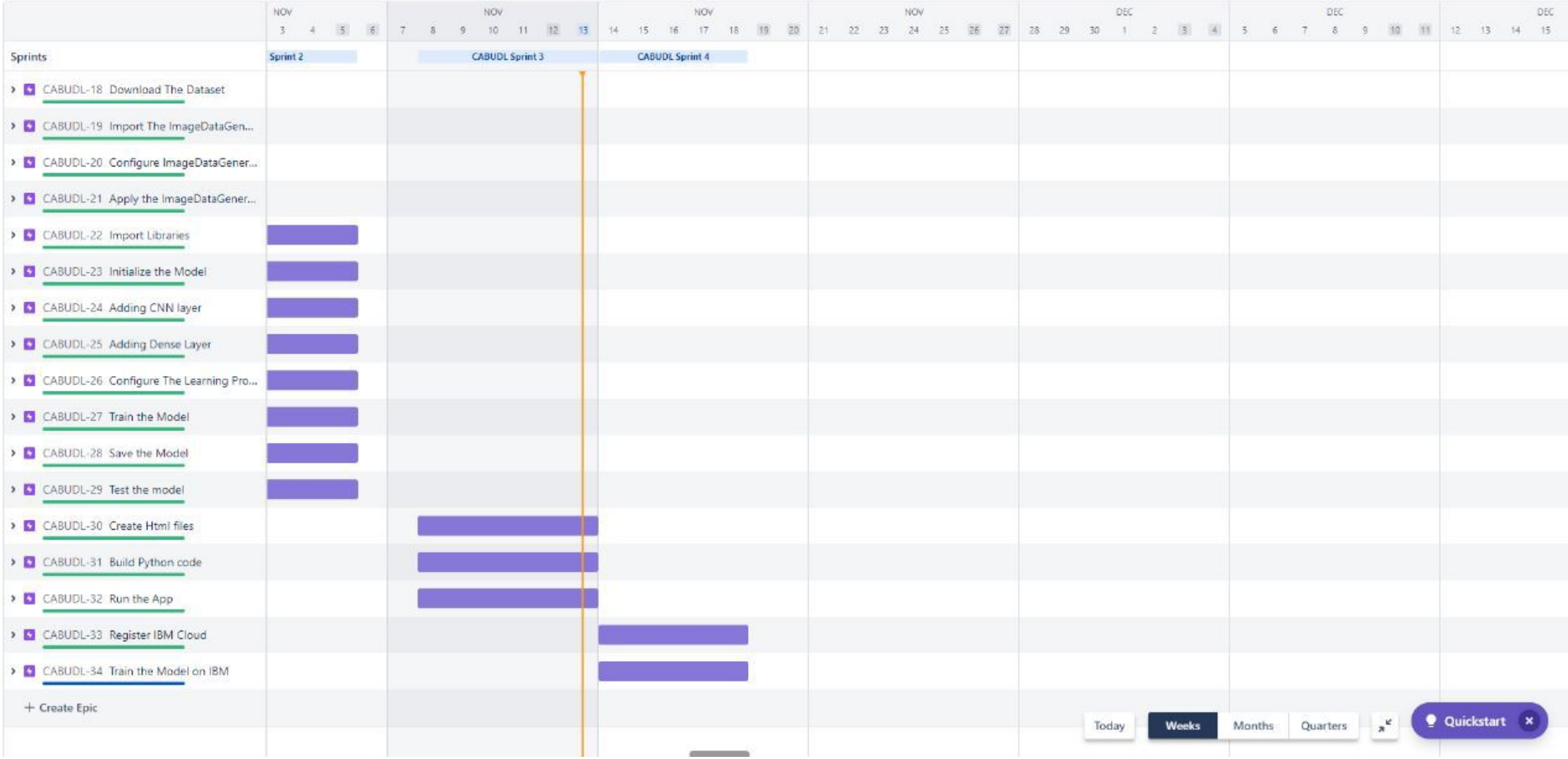
NOV
3 4 5 6
NOV
7 8 9 10 11 12 13
NOV
14 15 16 17 18 19 20
NOV
21 22 23 24 25 26 27
DEC
28 29 30 1 2 3 4
DEC
5 6 7 8 9 10 11
DEC
12 13 14 15
Sprints
Sprint 2
CABUDL Sprint 3
CABUDL Sprint 4
CABUDL-18 Download The Dataset
CABUDL-19 Import The ImageDataGen...
CABUDL-20 Configure ImageDataGener...
CABUDL-21 Apply the ImageDataGener...
CABUDL-22 Import Libraries
CABUDL-23 Initialize the Model
CABUDL-24 Adding CNN layer
CABUDL-25 Adding Dense Layer
CABUDL-26 Configure The Learning Pro...
CABUDL-27 Train the Model
CABUDL-28 Save the Model
CABUDL-29 Test the model
CABUDL-30 Create Html files
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CABUDL-34 Train the Model on IBM
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Today
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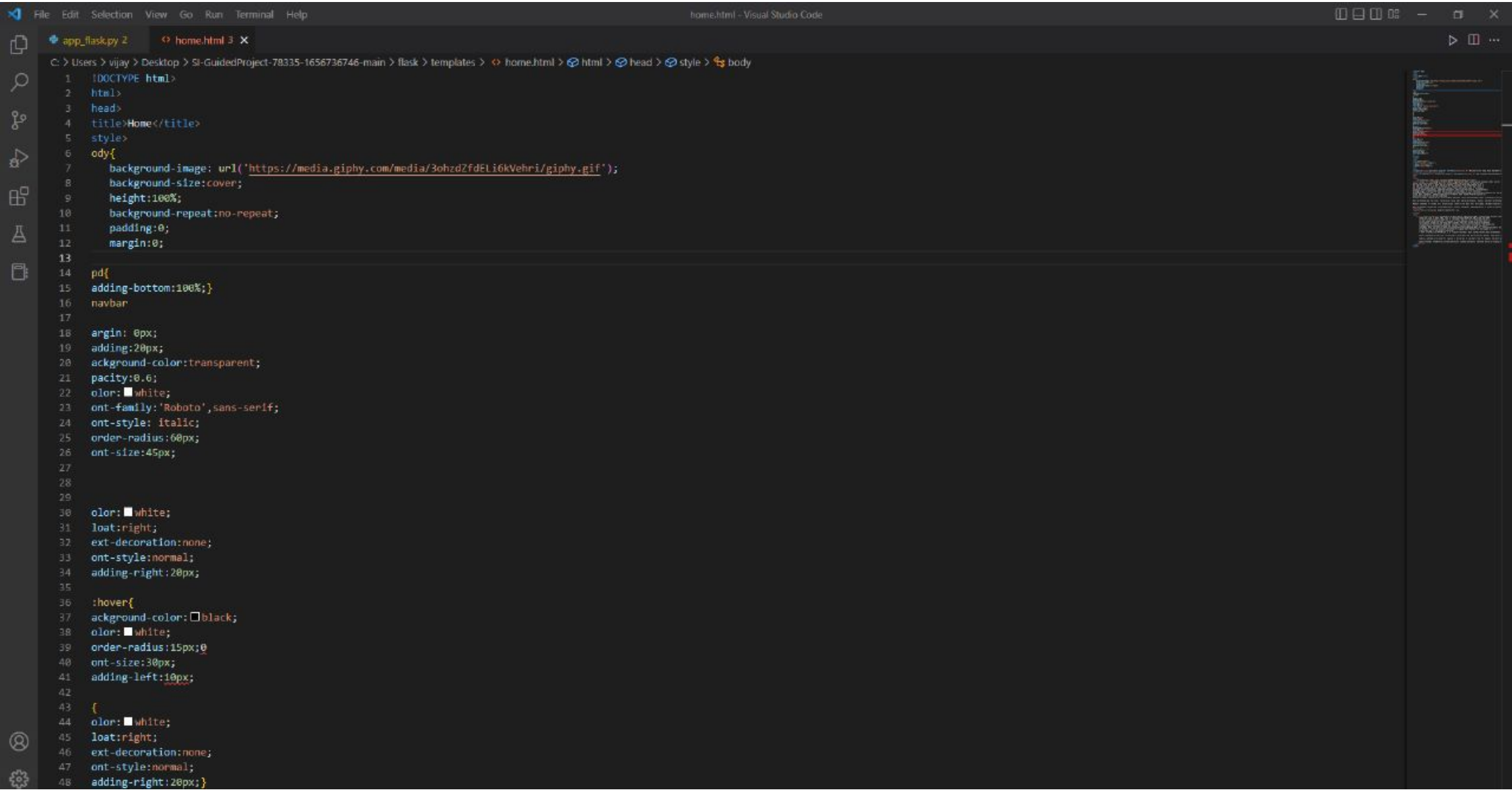
File Edit Selection View Go Run Terminal Help — home.html - Visual Studio Code

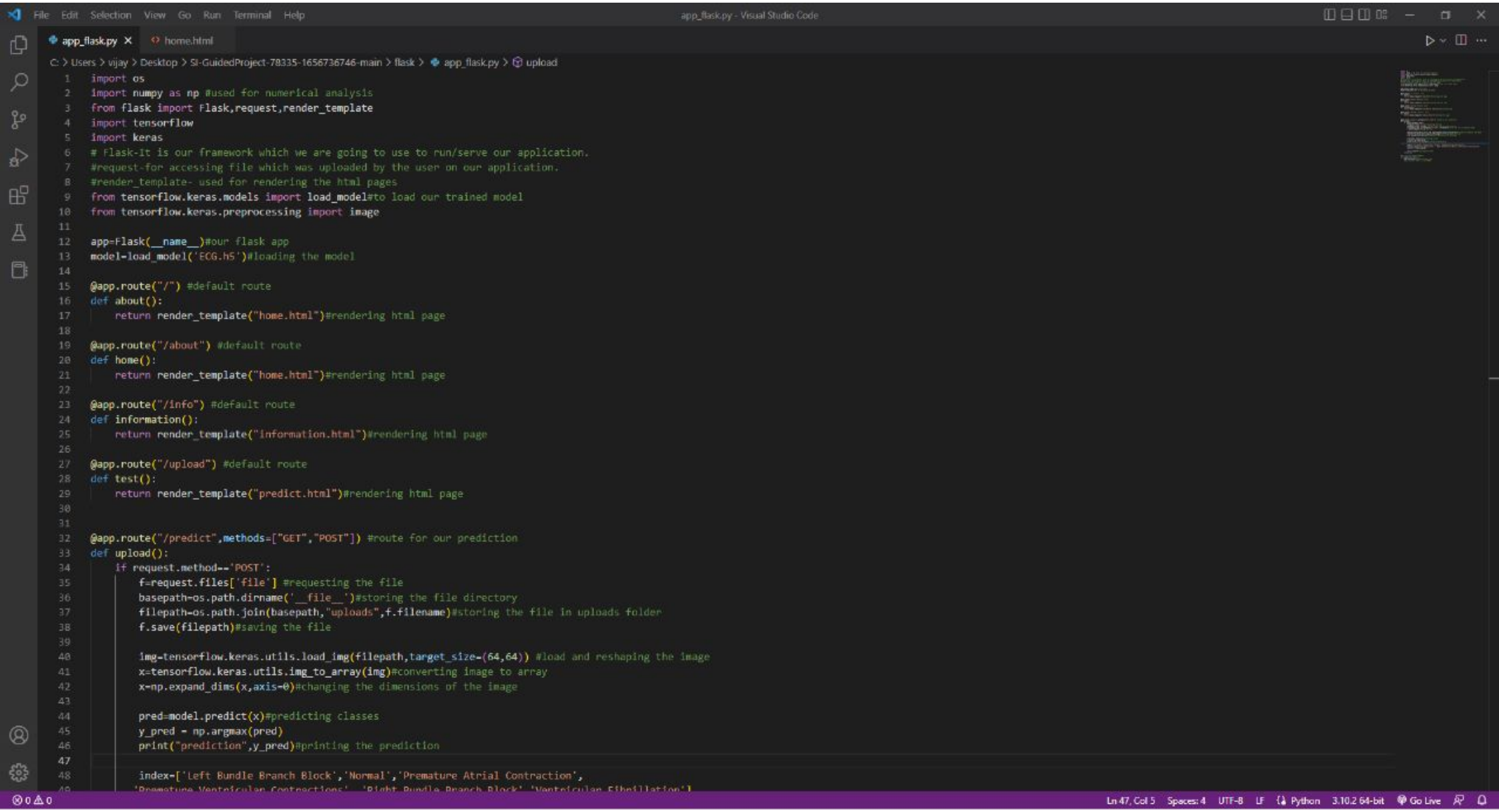
app_flask.py 2 | home.html 3

C: > Users > vijay > Desktop > SI-GuidedProject-78335-1656736746-main > flask > templates > home.html > html > head > style > body

```
  /head>
  div>
div class="navbar">
  a href="/upload" >Predict</a>
  a href="/info">Info</a>
  a href="/about">Home</a>
  br>
  /div>
  b class="pd"><font color="#fff" size="50" font-family="Comic Sans MS" >Welcome To ECG- Image Based Heartbeat Classification Application For Arrhythmia Detection</font></b>
  br><br><br><br><br><br><br><br><br><br><br>
  center><b class="pd"><font color="Black" size="15" font-family="Comic Sans MS" >ECG arrhythmia classification using CNN</font></b></center>
  div>
  br>
  center>
     <img src="https://media.giphy.com/media/lo9OHBZzaM7W8Lg5L0/giphy.gif" alt="">
  p><font color="#fff">According to the World Health Organization (WHO), cardiovascular diseases (CVDs) are the
  umber one cause of death today. Over 17.7 million people died from CVDs in the year 2017
  ll over the world which is about 31% of all deaths, and over 75% of these deaths occur in
  ow and middle income countries. Arrhythmia is a representative type of CVD that refers to
  ny irregular change from the normal heart rhythms. There are several types of arrhythmia
  ncluding atrial fibrillation, premature contraction, ventricular fibrillation, and tachycardia.
  lthough single arrhythmia heartbeat may not have a serious impact on life, continuous
  rrhythmia beats can result in fatal circumstances.Electrocardiogram (ECG) is a non-invasive medical tool that displays the rhythm and status
  f the heart. Therefore, automatic detection of irregular heart rhythms from ECG signals is a
  ignificant task in the field of cardiology.
   heart arrhythmia (uh-RITH-me-uh) is an irregular heartbeat. Heart rhythm problems (heart arrhythmias) occur when the electrical signals that coordinate the heart's beats don't work properly. The faulty signaling caus

  eart arrhythmias may feel like a fluttering or racing heart and may be harmless. However, some heart arrhythmias may cause bothersome — sometimes even life-threatening — signs and symptoms.

  owever, sometimes it's normal for a person to have a fast or slow heart rate. For example, the heart rate may increase with exercise or slow down during sleep.

  eart arrhythmia treatment may include medications, catheter procedures, implanted devices or surgery to control or eliminate fast, slow or irregular heartbeats. A heart-healthy lifestyle can help prevent heart damage
  /font></p>
  img src="heart_arrhytmia.jpg" height=640 width=1600></img>

  /center>
  /div>
     <p><font color="transparent";>According to the World Health Organization (WHO), cardiovascular diseases (CVDs) are the
        number one cause of death today. Over 17.7 million people died from CVDs in the year 2017
        all over the world which is about 31% of all deaths, and over 75% of these deaths occur in
        low and middle income countries. Arrhythmia is a representative type of CVD that refers to
        any irregular change from the normal heart rhythms. There are several types of arrhythmia
        including atrial fibrillation, premature contraction, ventricular fibrillation, and tachycardia.
        Although single arrhythmia heartbeat may not have a serious impact on life, continuous
        arrhythmia beats can result in fatal circumstances.Electrocardiogram (ECG) is a non-invasive medical tool that displays the rhythm and status
        of the heart. Therefore, automatic detection of irregular heart rhythms from ECG signals is a
        significant task in the field of cardiology.
        A heart arrhythmia (uh-RITH-me-uh) is an irregular heartbeat. Heart rhythm problems (heart arrhythmias) occur when the electrical signals that coordinate the heart's beats don't work properly. The faulty signal
```

⊗ 3 ⚠ 2 — Ln 13, Col 2 — Spaces: 4 — UTF-8 — CRLF — HTML — Go Live


File Edit Selection View Go Run Terminal Help
home.html - Visual Studio Code
app_flask.py 2
home.html 3
C: > Users > vijay > Desktop > SI-GuidedProject-78335-1656736746-main > flask > templates > home.html > html > head > style > body
!DOCTYPE html>
html>
head>
title>Home</title>
style>
ody{
background-image: url('https://media.giphy.com/media/3ohzdZfdELi6kVehri/giphy.gif');
background-size:cover;
height:100%;
background-repeat:no-repeat;
padding:0;
margin:0;
pd{
adding-bottom:100%;}
navbar
argin: 0px;
adding:20px;
ackground-color:transparent;
pacity:0.6;
olor: white;
ont-family:'Roboto',sans-serif;
ont-style: italic;
order-radius:60px;
ont-size:45px;
olor: white;
loat:right;
ext-decoration:none;
ont-style:normal;
adding-right:20px;
:hover{
ackground-color: black;
olor: white;
order-radius:15px;0
ont-size:30px;
adding-left:10px;
{
olor: white;
loat:right;
ext-decoration:none;
ont-style:normal;
adding-right:20px;}


File Edit Selection View Go Run Terminal Help
app_flask.py - Visual Studio Code
app_flask.py
home.html
C: > Users > vijay > Desktop > SI-GuidedProject-78335-1656736746-main > flask > app_flask.py > upload
import os
import numpy as np #used for numerical analysis
from flask import Flask,request,render_template
import tensorflow
import keras
# Flask-It is our framework which we are going to use to run/serve our application.
#request-for accessing file which was uploaded by the user on our application.
#render_template- used for rendering the html pages
from tensorflow.keras.models import load_model#to load our trained model
from tensorflow.keras.preprocessing import image
app=Flask(__name__)#our flask app
model=load_model('ECG.h5')#loading the model
@app.route("/") #default route
def about():
return render_template("home.html")#rendering html page
@app.route("/about") #default route
def home():
return render_template("home.html")#rendering html page
@app.route("/info") #default route
def information():
return render_template("information.html")#rendering html page
@app.route("/upload") #default route
def test():
return render_template("predict.html")#rendering html page
@app.route("/predict",methods=["GET","POST"]) #route for our prediction
def upload():
if request.method=='POST':
f=request.files['file'] #requesting the file
basepath=os.path.dirname('__file__')#storing the file directory
filepath=os.path.join(basepath,"uploads",f.filename)#storing the file in uploads folder
f.save(filepath)#saving the file
img=tensorflow.keras.utils.load_img(filepath,target_size=(64,64)) #load and reshaping the image
x=tensorflow.keras.utils.img_to_array(img)#converting image to array
x=np.expand_dims(x,axis=0)#changing the dimensions of the image
pred=model.predict(x)#predicting classes
y_pred = np.argmax(pred)
print("prediction",y_pred)#printing the prediction
index=['Left Bundle Branch Block','Normal','Premature Atrial Contraction',
Ln 47, Col 5 Spaces: 4 UTF-8 LF Python 3.10.2 64-bit Go Live