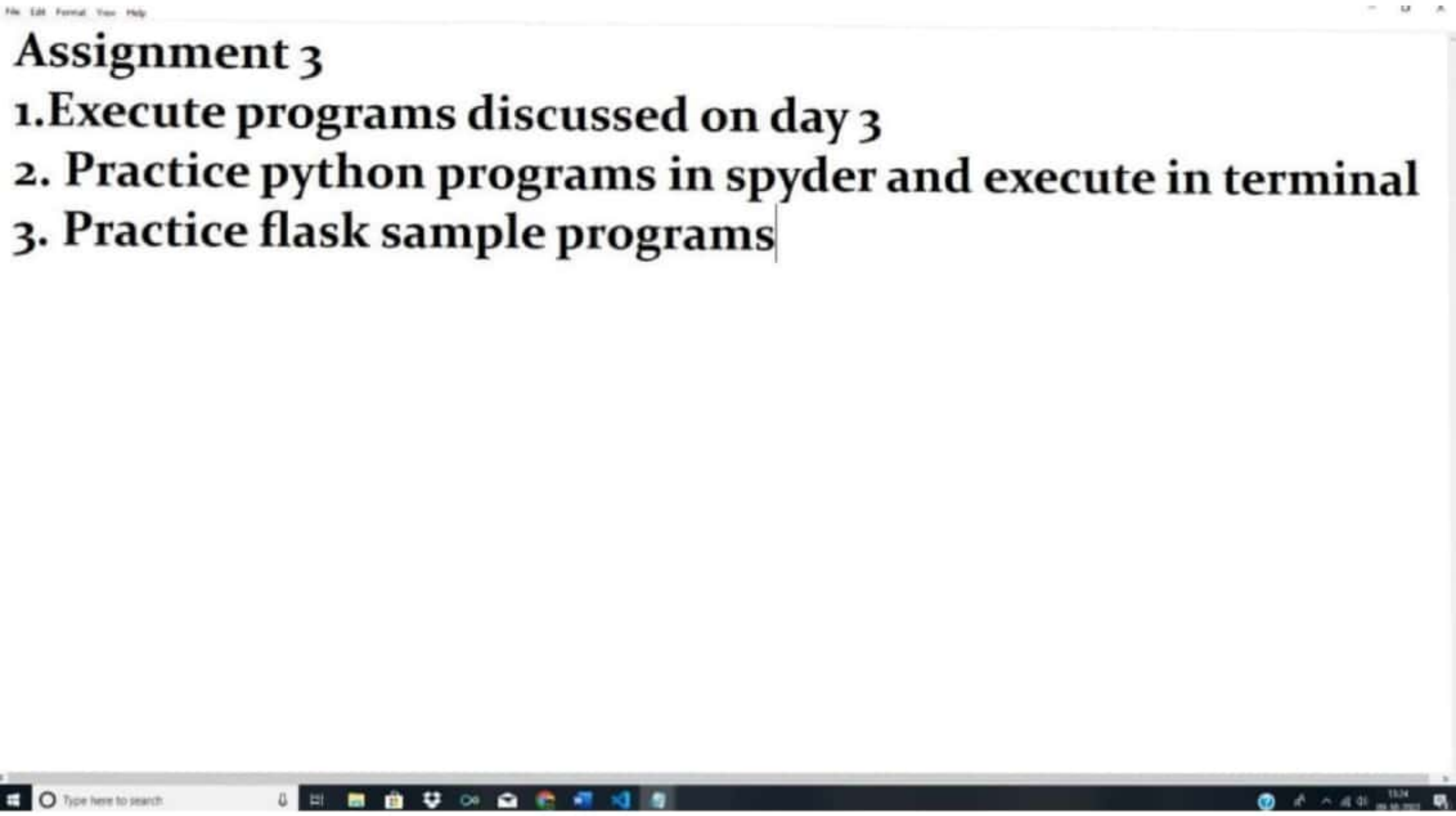
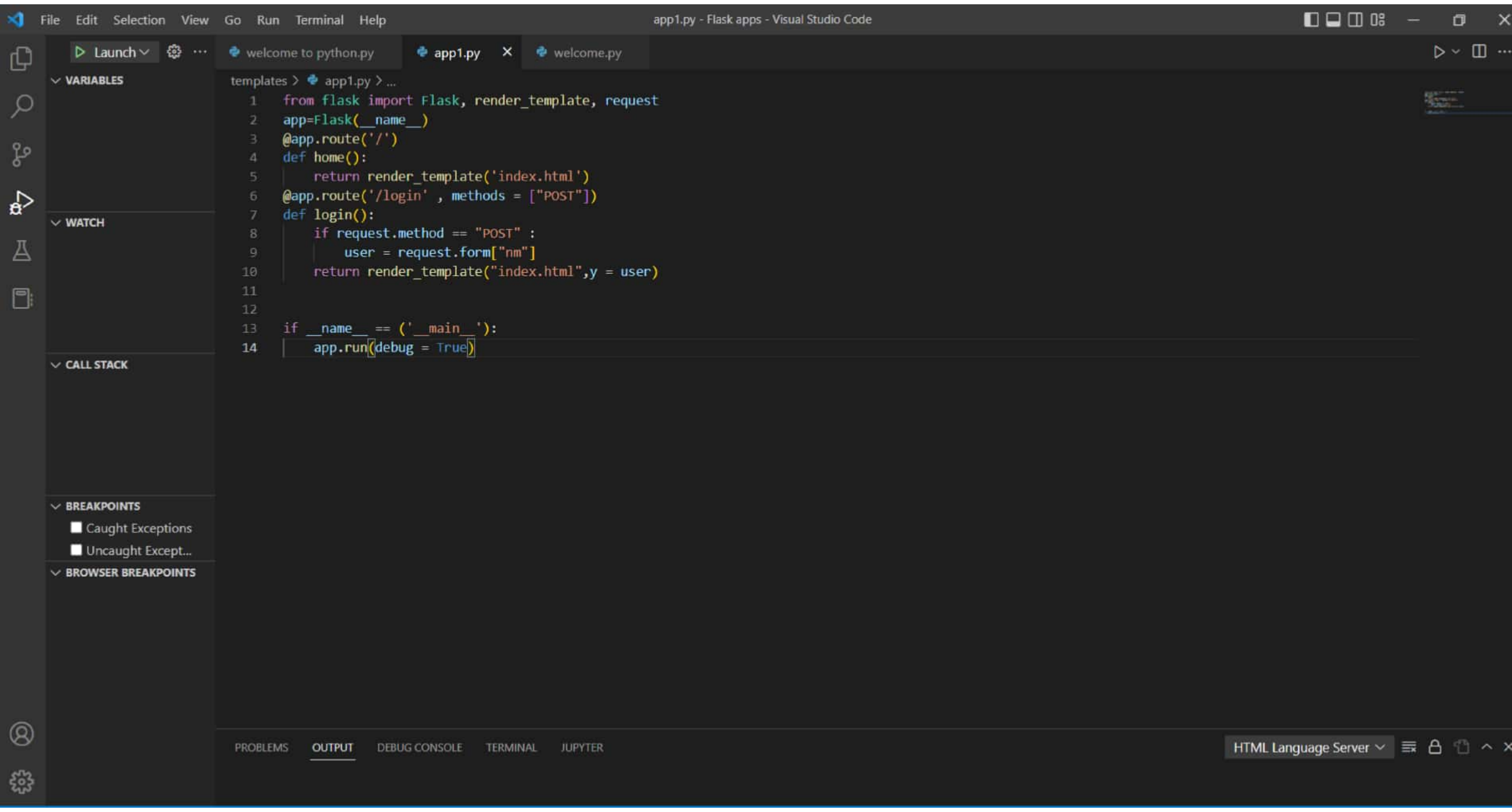
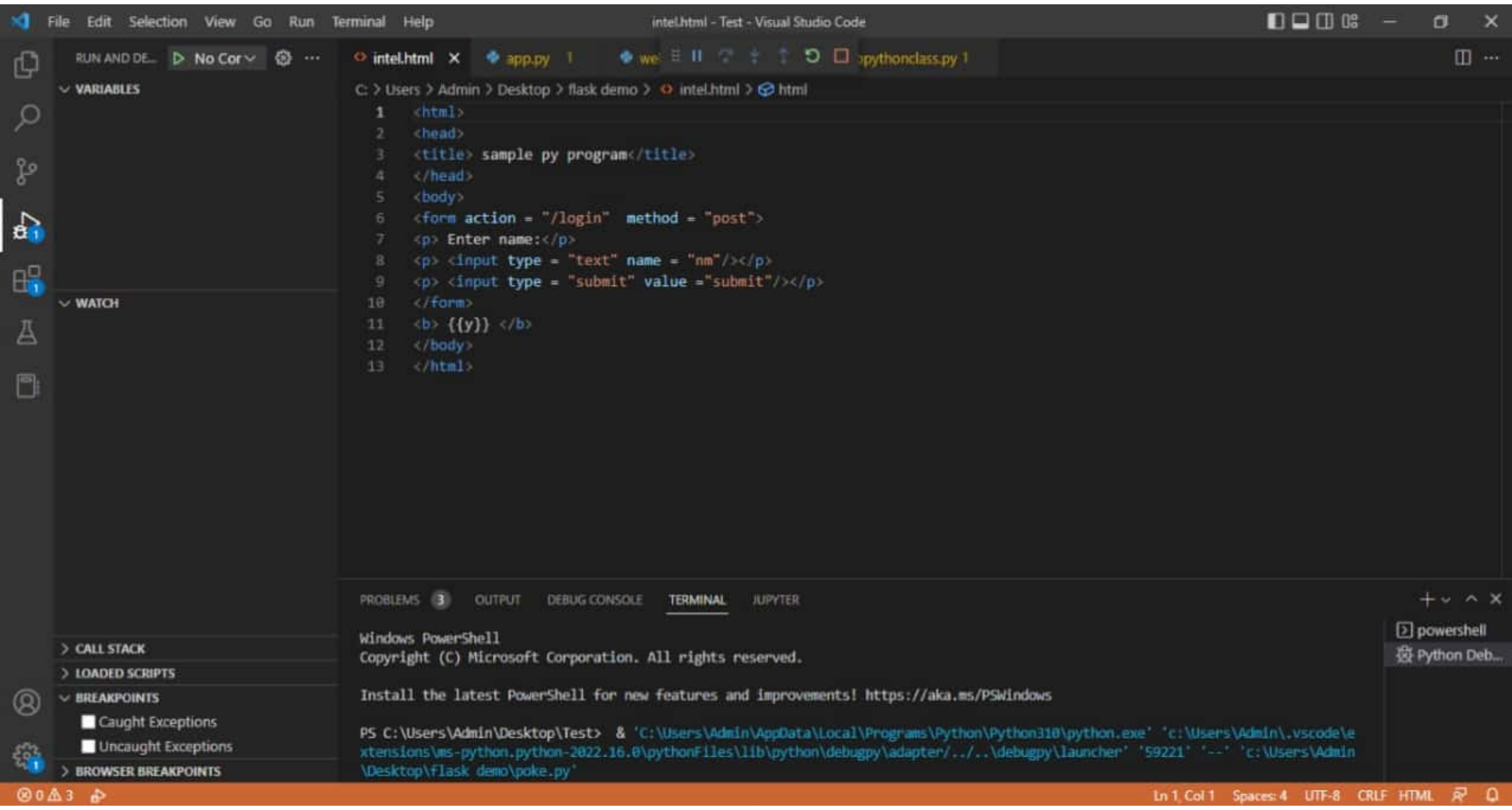


Assignment 3
1.Execute programs discussed on day 3
2. Practice python programs in spyder and execute in terminal
3. Practice flask sample programs



```python
from flask import Flask, render_template, request
app=Flask(__name__)
@app.route('/')
def home():
    return render_template('index.html')
@app.route('/login' , methods = ["POST"])
def login():
    if request.method == "POST" :
        user = request.form["nm"]
    return render_template("index.html",y = user)


if __name__ == ('__main__'):
    app.run(debug = True)
```



```html
<html>
<head>
<title> sample py program</title>
</head>
<body>
<form action = "/login"  method = "post">
<p> Enter name:</p>
<p> <input type = "text" name = "nm"/></p>
<p> <input type = "submit" value ="submit"/></p>
</form>
<b> {{y}} </b>
</body>
</html>
```

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Admin\Desktop\Test>  & 'C:\Users\Admin\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\Admin\.vscode\e
xtensions\ms-python.python-2022.16.0\pythonFiles\lib\python\debugpy\adapter/../..\debugpy\launcher' '59221' '--' 'c:\Users\Admin
\Desktop\flask demo\poke.py'
```
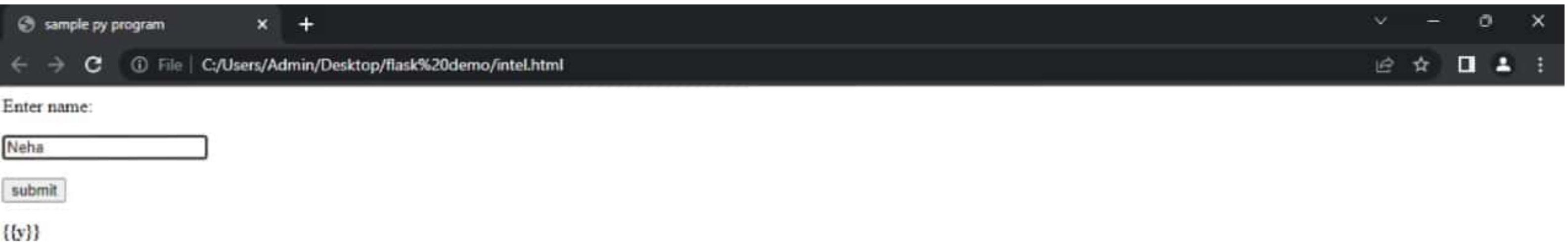
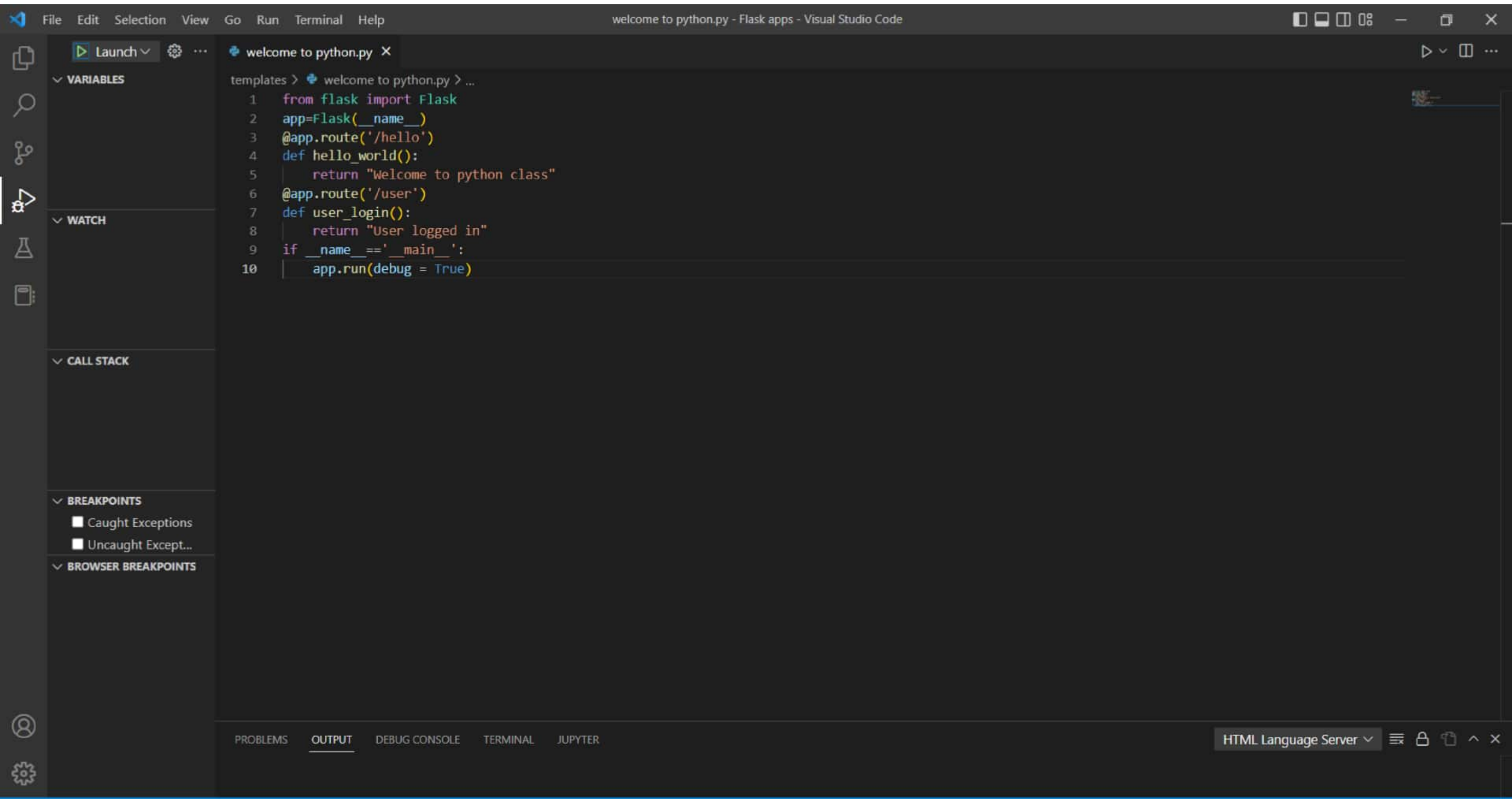



Enter name:

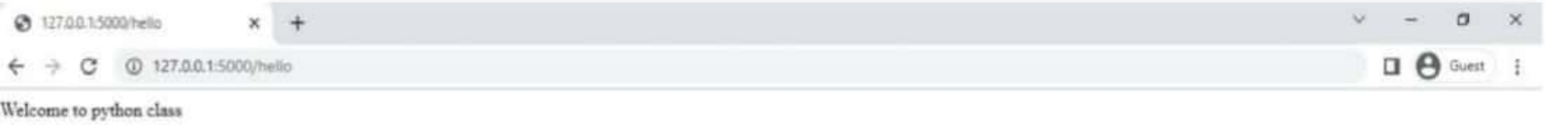
Neha

{{y}}

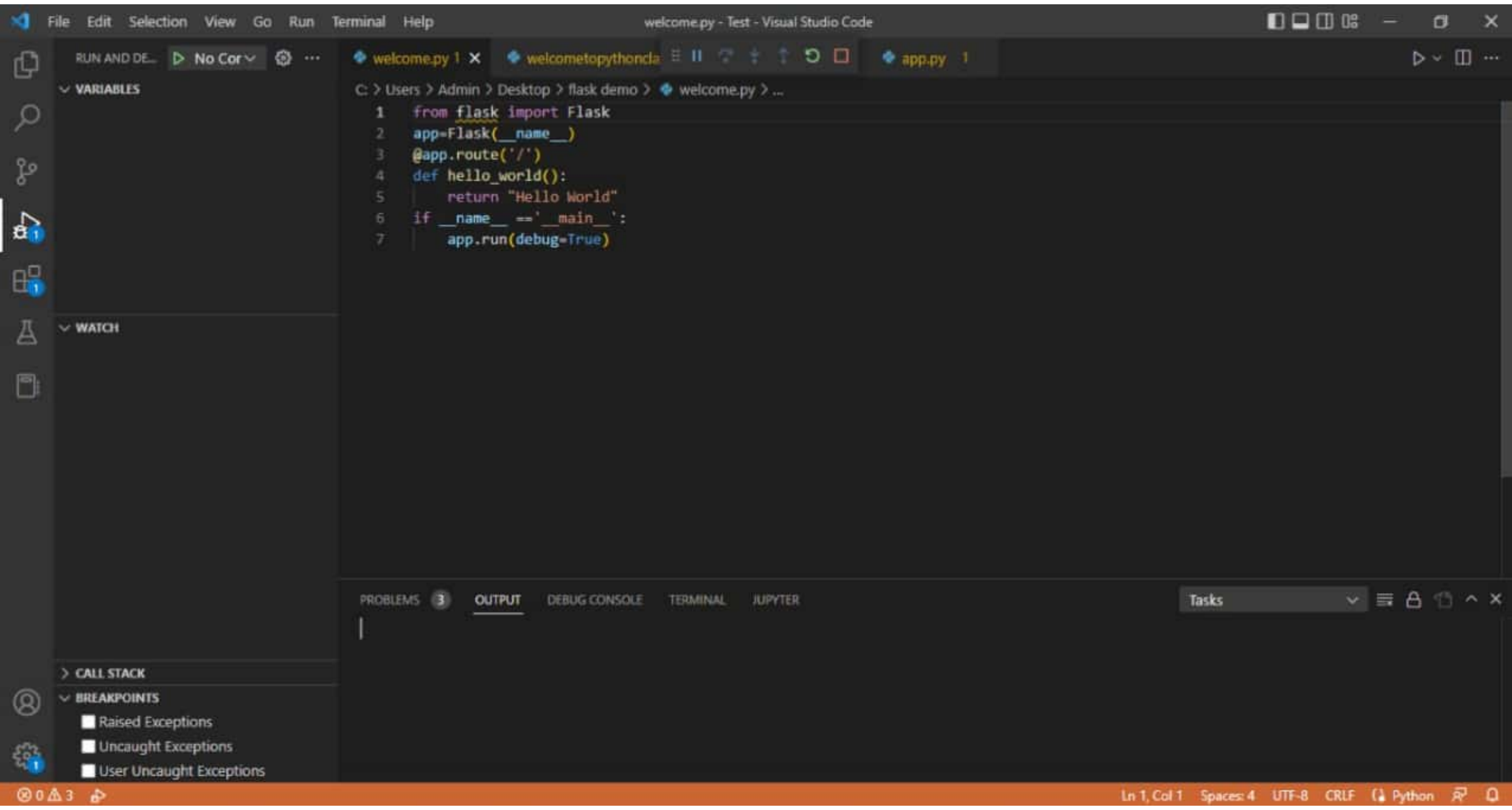


File Edit Selection View Go Run Terminal Help
welcome to python.py - Flask apps - Visual Studio Code
Launch
VARIABLES
WATCH
CALL STACK
BREAKPOINTS
□ Caught Exceptions
□ Uncaught Except...
BROWSER BREAKPOINTS
welcome to python.py
templates > welcome to python.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
HTML Language Server

```python
from flask import Flask
app=Flask(__name__)
@app.route('/hello')
def hello_world():
    return "Welcome to python class"
@app.route('/user')
def user_login():
    return "User logged in"
if __name__=='__main__':
    app.run(debug = True)
```

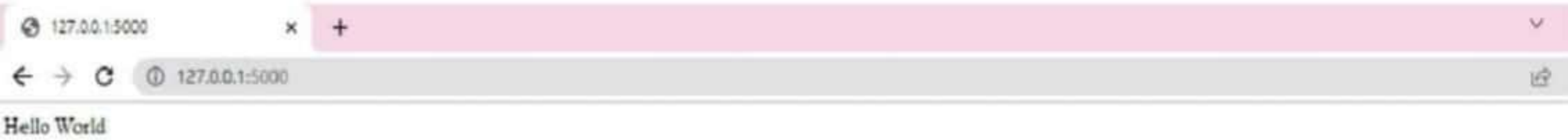


Welcome to python class

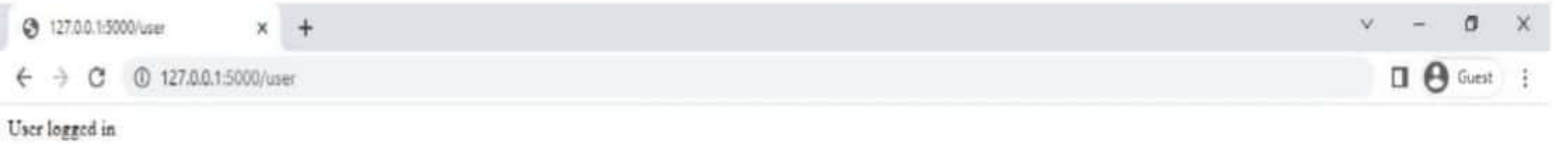


C: > Users > Admin > Desktop > flask demo > welcome.py > ...

```python
from flask import Flask
app=Flask(__name__)
@app.route('/')
def hello_world():
    return "Hello World"
if __name__ =='__main__':
    app.run(debug=True)
```

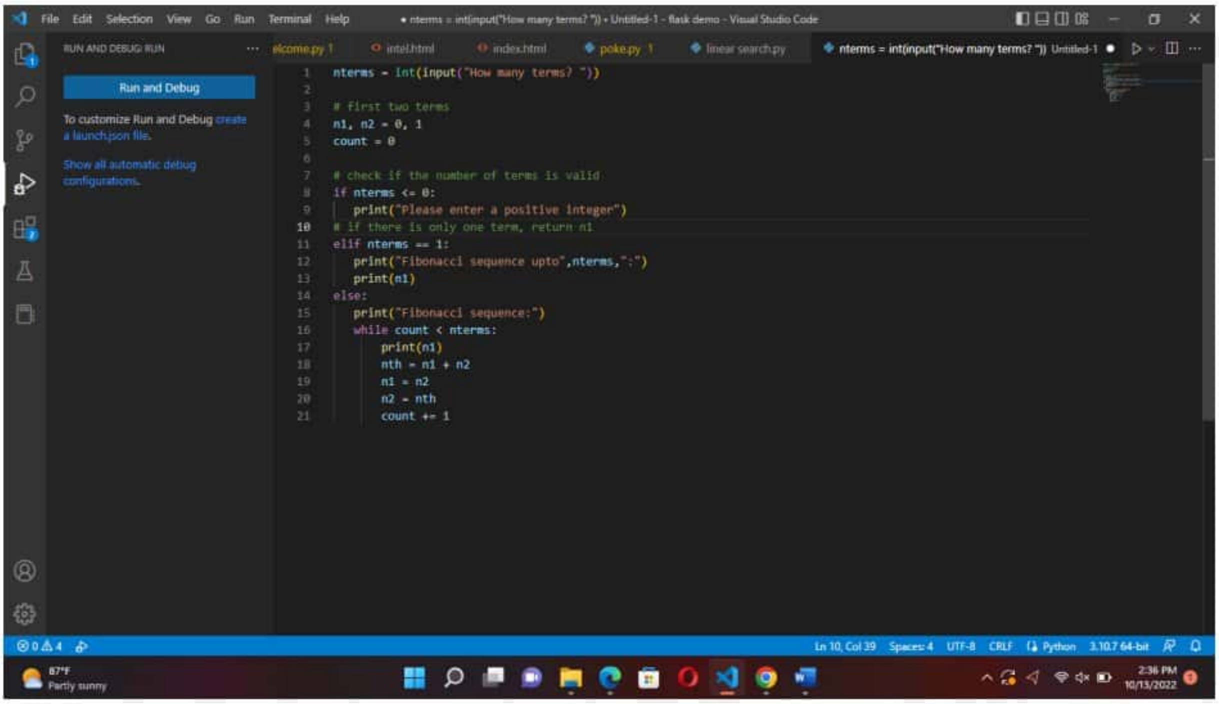


Hello World



User logged in

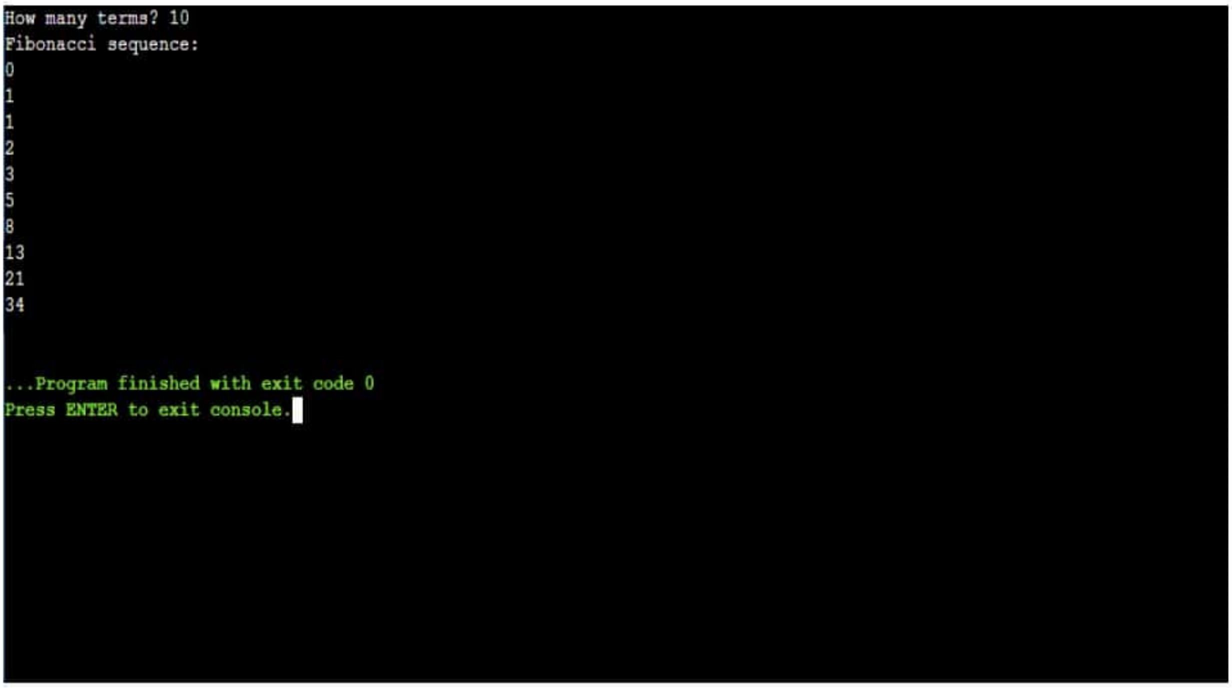
Python program for Fibonacci series


File Edit Selection View Go Run Terminal Help
● nterms = int(input("How many terms? ")) • Untitled-1 - flask demo - Visual Studio Code
RUN AND DEBUG: RUN
Run and Debug
elcome.py 1
intel.html
index.html
poke.py 1
linear search.py
nterms = int(input("How many terms? ")) Untitled-1
Ln 10, Col 39 Spaces: 4 UTF-8 CRLF Python 3.10.7 64-bit
87°F Partly sunny
2:36 PM 10/13/2022

To customize Run and Debug create a launch.json file.

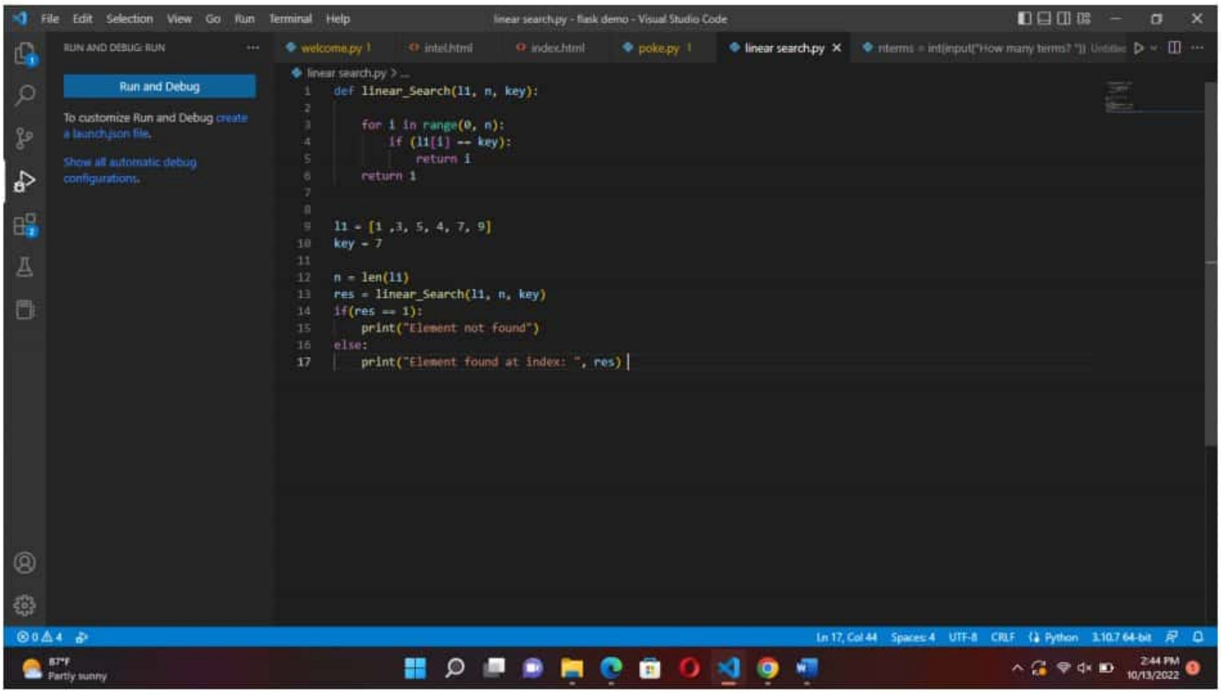
Show all automatic debug configurations.

```python
nterms = int(input("How many terms? "))

# first two terms
n1, n2 = 0, 1
count = 0

# check if the number of terms is valid
if nterms <= 0:
    print("Please enter a positive integer")
# if there is only one term, return n1
elif nterms == 1:
    print("Fibonacci sequence upto",nterms,":")
    print(n1)
else:
    print("Fibonacci sequence:")
    while count < nterms:
        print(n1)
        nth = n1 + n2
        n1 = n2
        n2 = nth
        count += 1
```



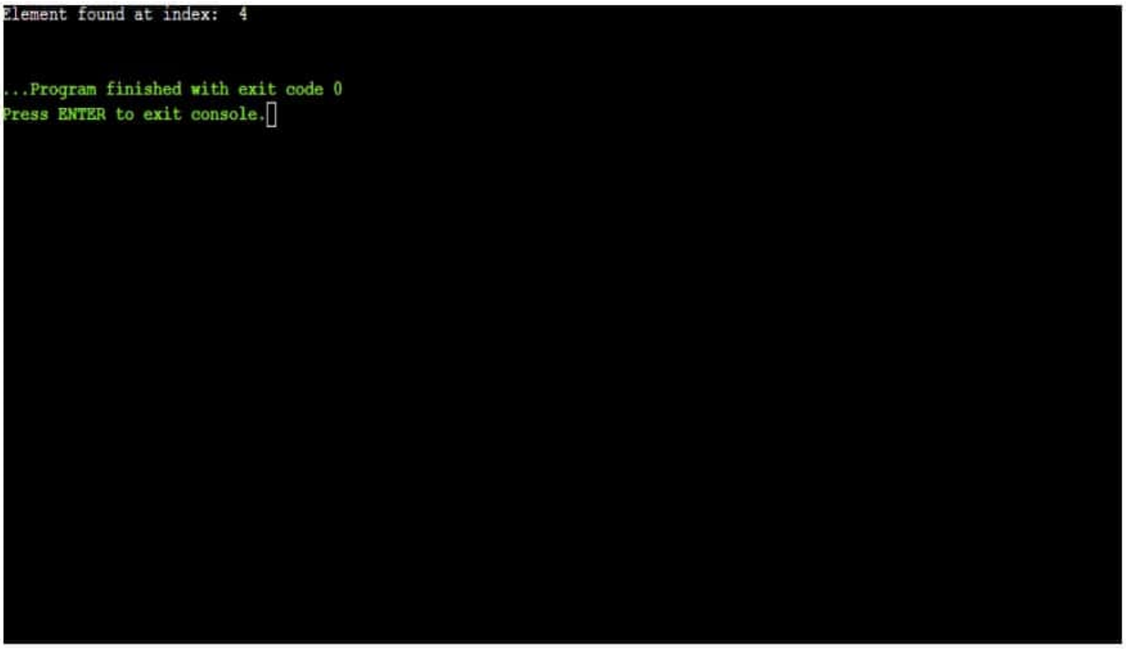
```
How many terms? 10
Fibonacci sequence:
0
1
1
2
3
5
8
13
21
34


...Program finished with exit code 0
Press ENTER to exit console.
```

Python program for linear search



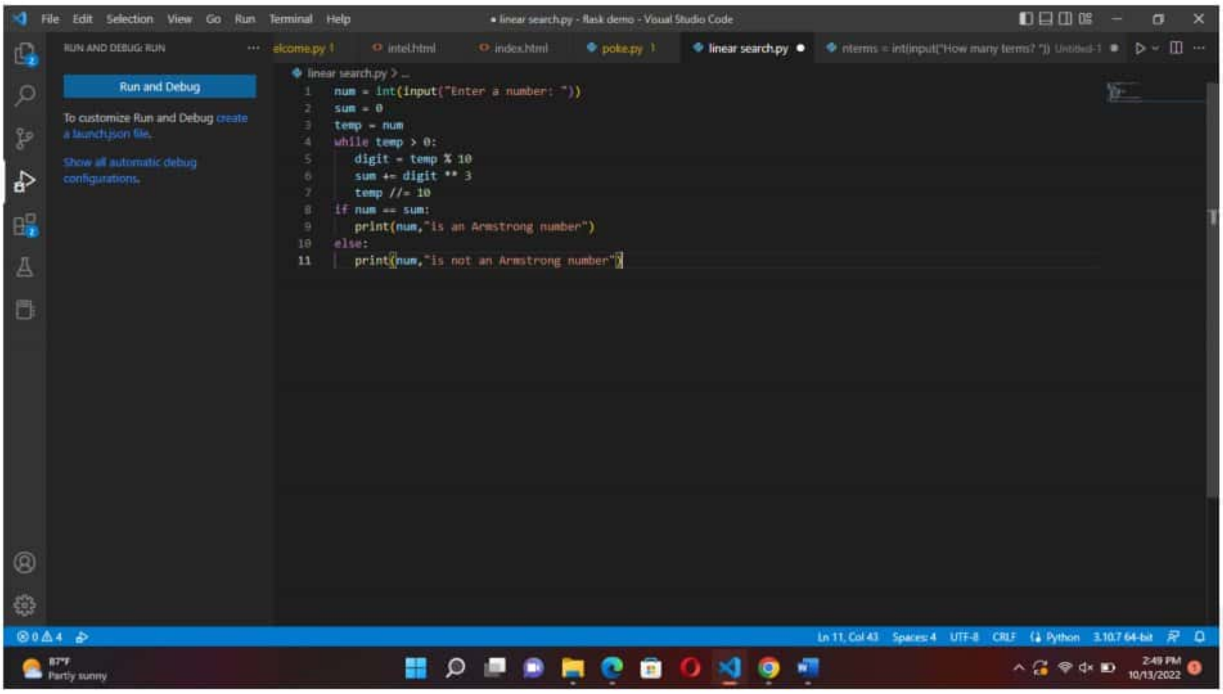
File Edit Selection View Go Run Terminal Help
linear search.py - flask demo - Visual Studio Code
RUN AND DEBUG: RUN
Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.
welcome.py
intel.html
index.html
poke.py
linear search.py
Ln 17, Col 44 Spaces: 4 UTF-8 CRLF Python 3.10.7 64-bit

```python
def linear_Search(l1, n, key):

    for i in range(0, n):
        if (l1[i] == key):
            return i
    return 1


l1 = [1 ,3, 5, 4, 7, 9]
key = 7

n = len(l1)
res = linear_Search(l1, n, key)
if(res == 1):
    print("Element not found")
else:
    print("Element found at index: ", res)
```

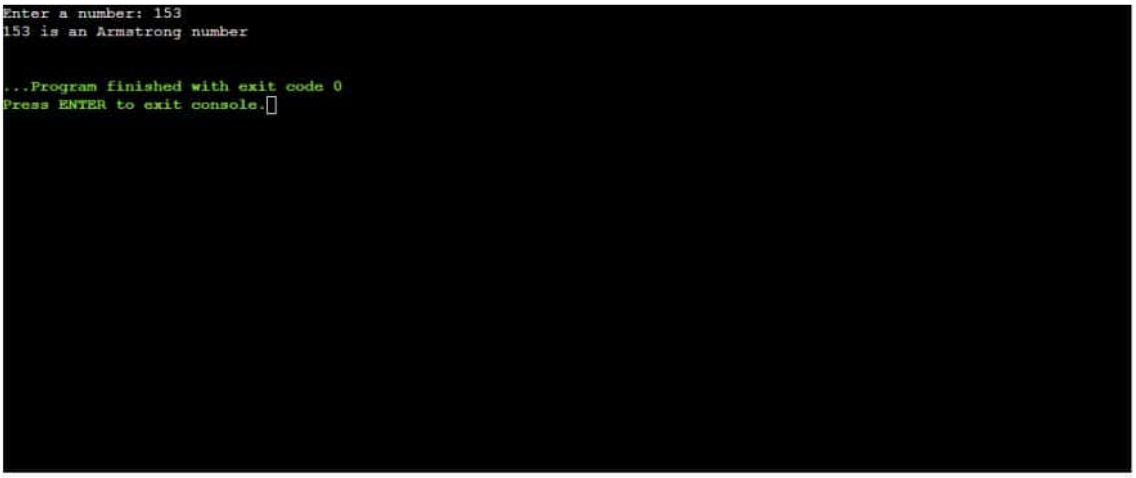


```
Element found at index:  4


...Program finished with exit code 0
Press ENTER to exit console.
```

Python program to find an armstrong

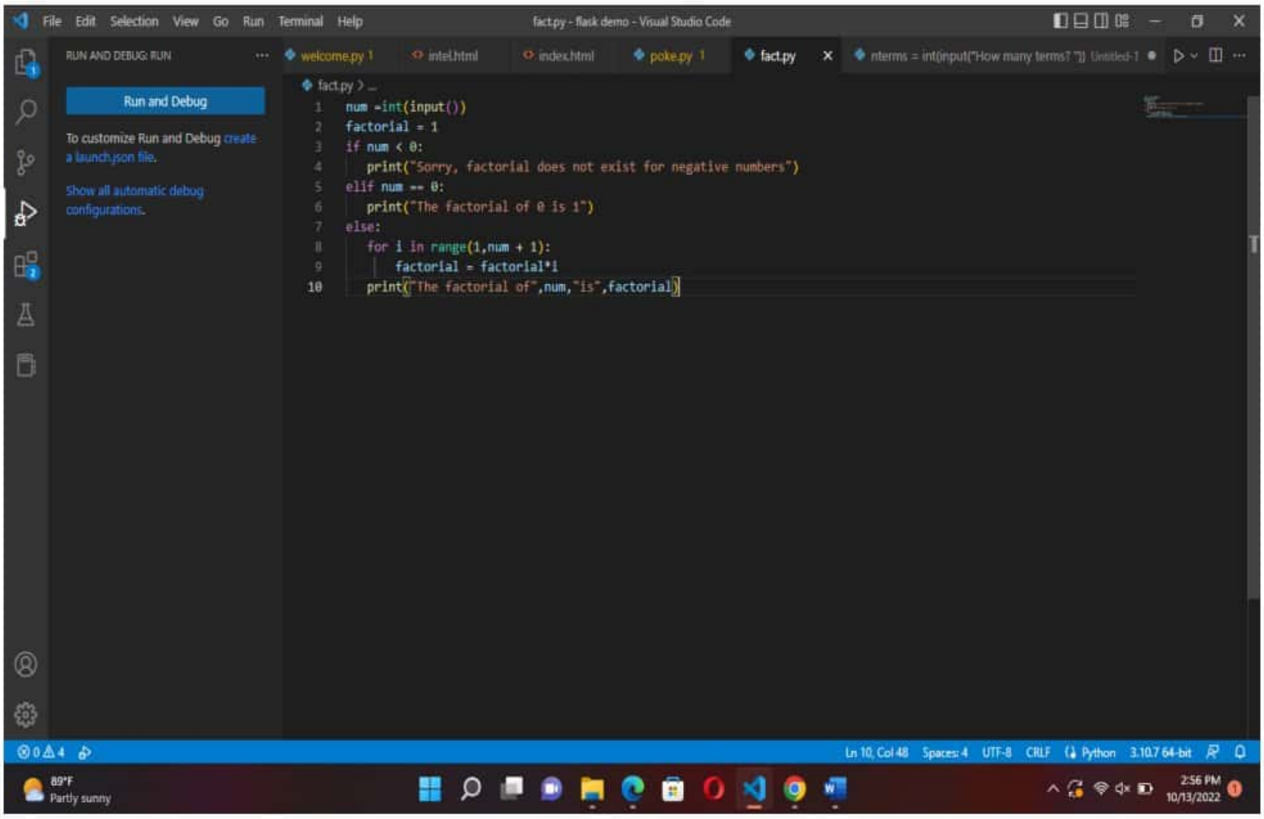

File Edit Selection View Go Run Terminal Help
● linear search.py - flask demo - Visual Studio Code
RUN AND DEBUG: RUN
elcome.py
intel.html
index.html
poke.py
linear search.py
Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.
Ln 11, Col 43 Spaces: 4 UTF-8 CRLF Python 3.10.7 64-bit
87°F Partly sunny
2:49 PM 10/13/2022

```python
num = int(input("Enter a number: "))
sum = 0
temp = num
while temp > 0:
    digit = temp % 10
    sum += digit ** 3
    temp //= 10
if num == sum:
    print(num,"is an Armstrong number")
else:
    print(num,"is not an Armstrong number")
```



```
Enter a number: 153
153 is an Armstrong number


...Program finished with exit code 0
Press ENTER to exit console.
```

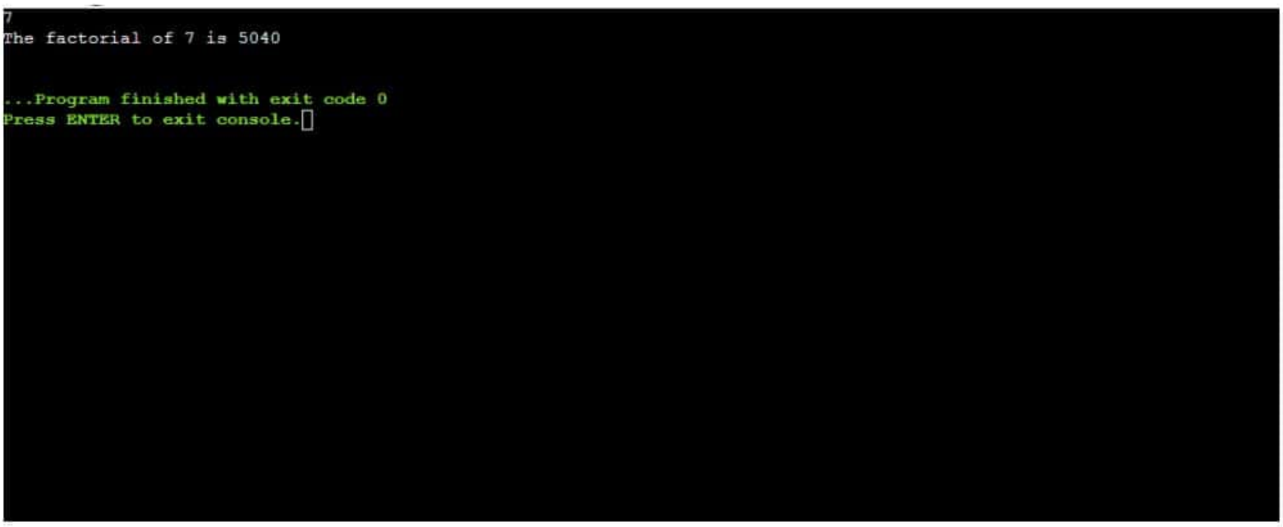
Python program for factorial



To customize Run and Debug create a launch.json file.

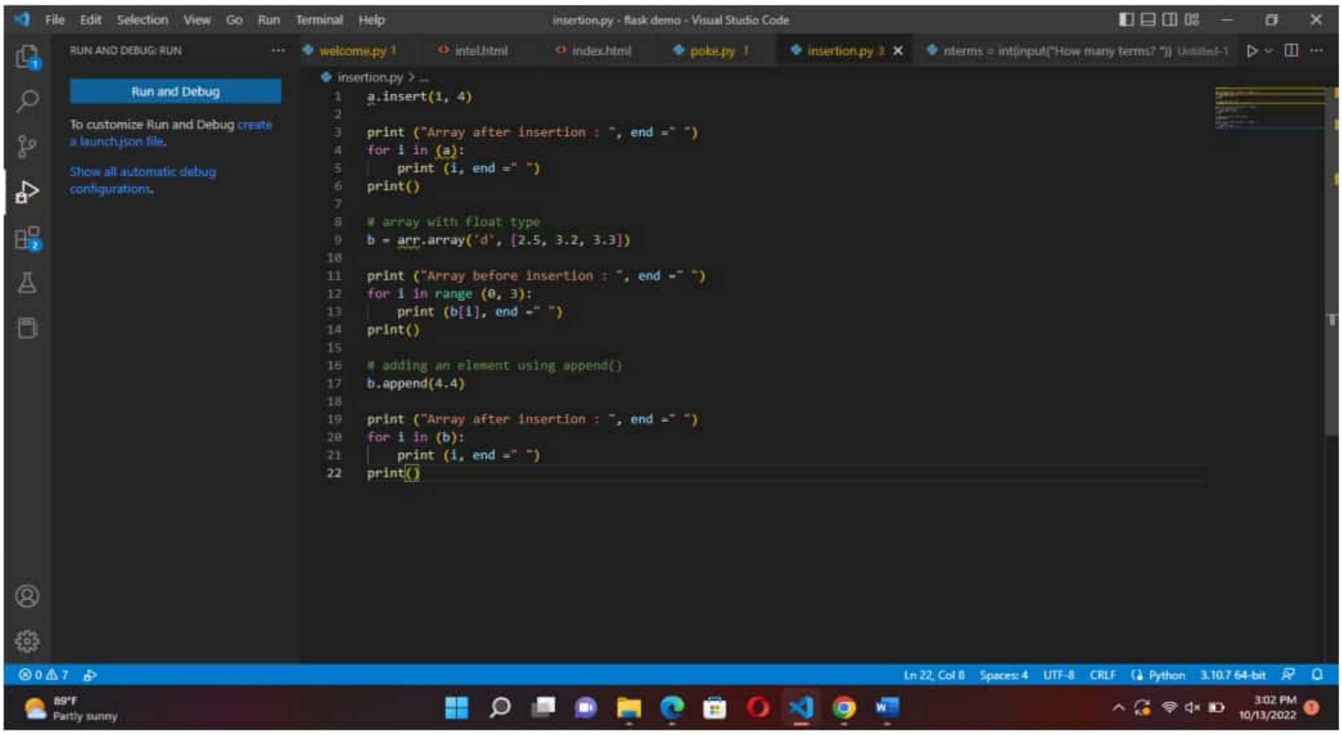
Show all automatic debug configurations.

```
num =int(input())
factorial = 1
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
       factorial = factorial*i
   print("The factorial of",num,"is",factorial)
```



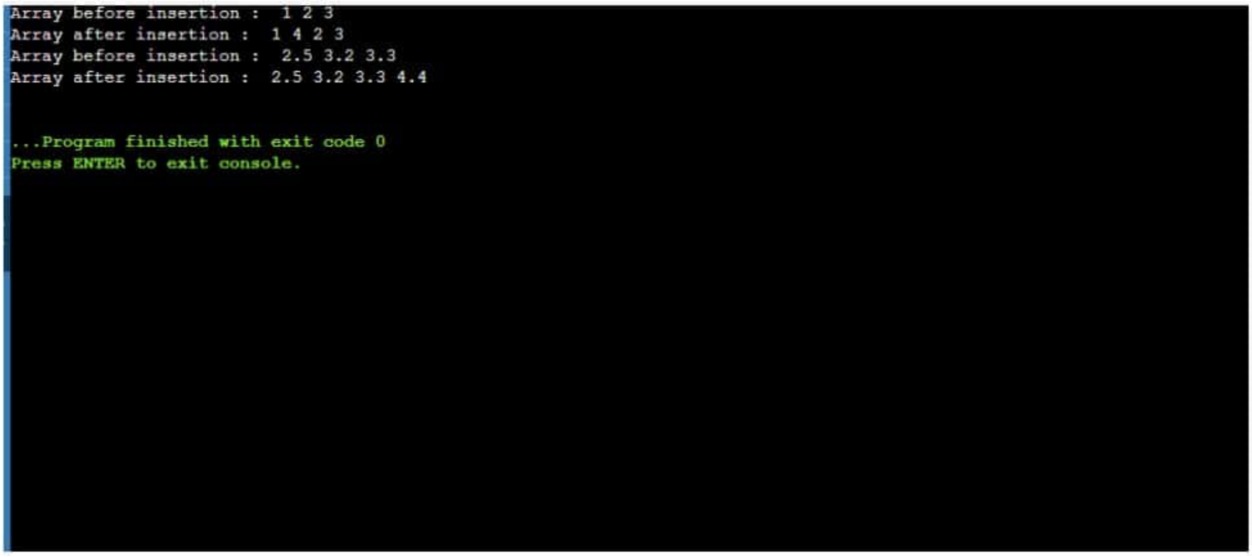
```
7
The factorial of 7 is 5040


...Program finished with exit code 0
Press ENTER to exit console.
```

Python program for array insertion.

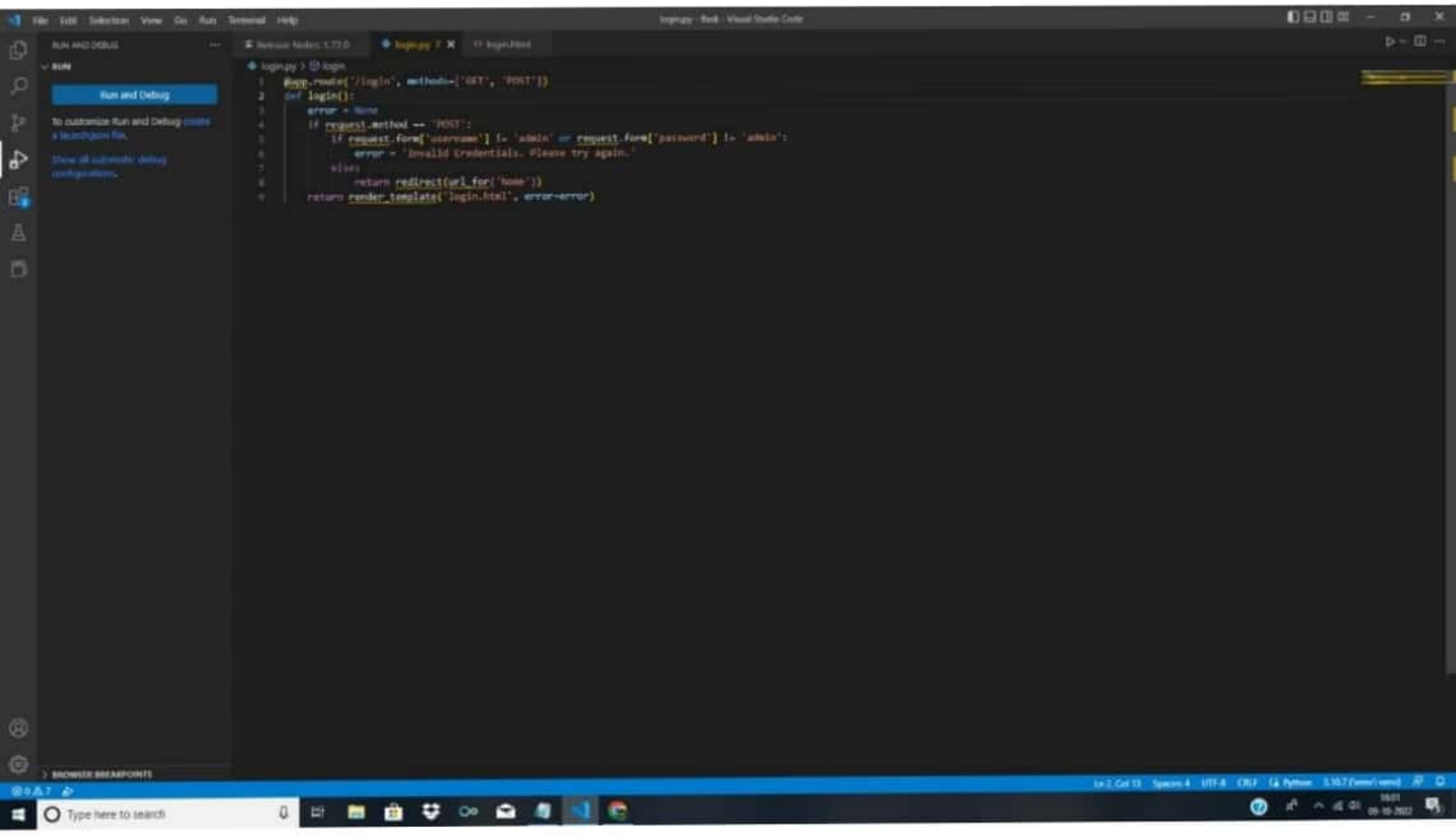


File Edit Selection View Go Run Terminal Help
insertion.py - flask demo - Visual Studio Code
RUN AND DEBUG: RUN
Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.
welcome.py 1
intel.html
index.html
poke.py 1
insertion.py 3
nterms = int(input("How many terms? ")) Untitled-1
insertion.py > ...
Ln 22, Col 8 Spaces: 4 UTF-8 CRLF Python 3.10.7 64-bit
89°F Partly sunny
3:02 PM 10/13/2022

```python
a.insert(1, 4)

print ("Array after insertion : ", end =" ")
for i in (a):
    print (i, end =" ")
print()

# array with float type
b = arr.array('d', [2.5, 3.2, 3.3])

print ("Array before insertion : ", end =" ")
for i in range (0, 3):
    print (b[i], end =" ")
print()

# adding an element using append()
b.append(4.4)

print ("Array after insertion : ", end =" ")
for i in (b):
    print (i, end =" ")
print()
```

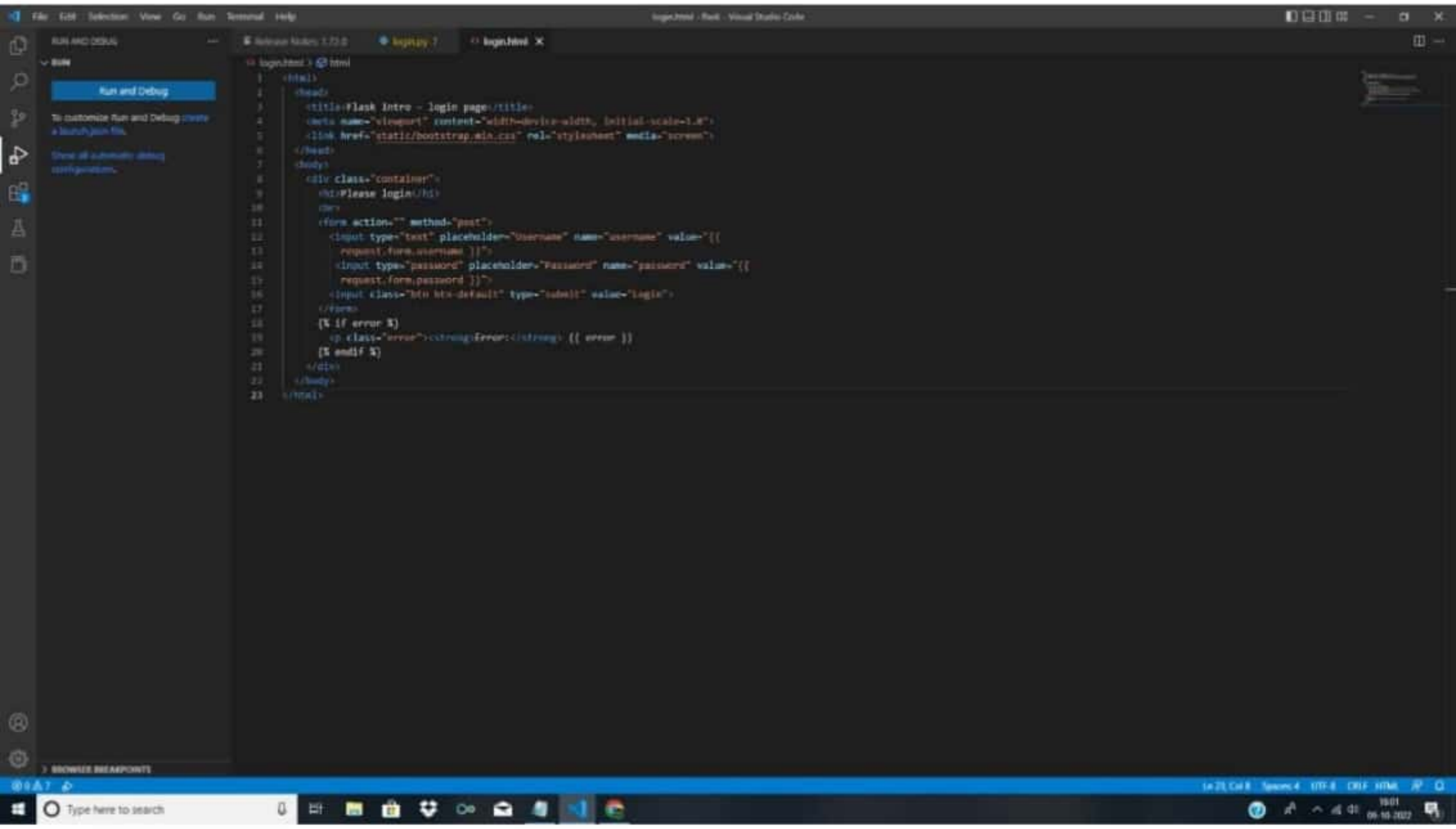


```
Array before insertion :  1 2 3
Array after insertion :  1 4 2 3
Array before insertion :  2.5 3.2 3.3
Array after insertion :  2.5 3.2 3.3 4.4


...Program finished with exit code 0
Press ENTER to exit console.
```

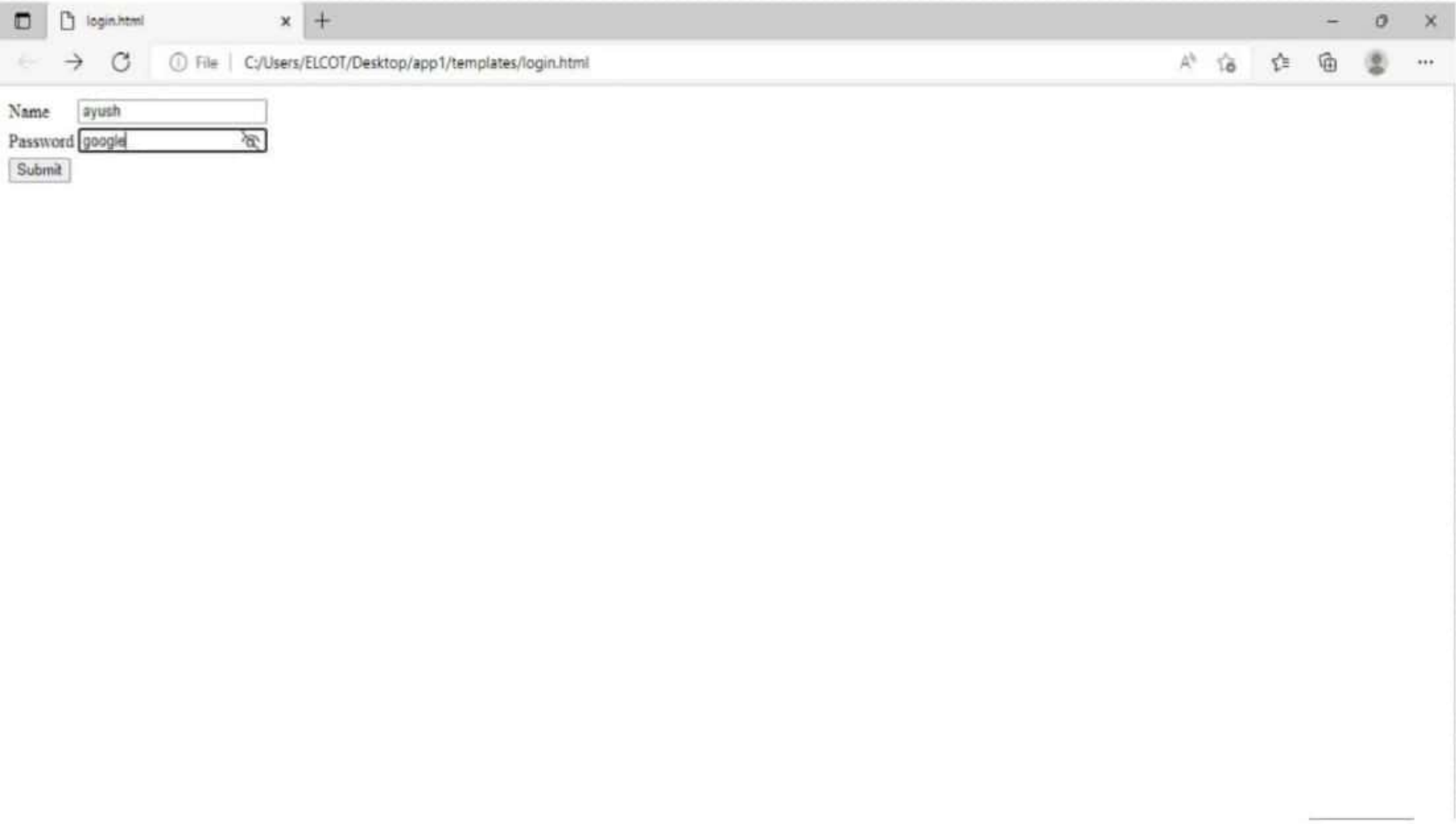


File Edit Selection View Go Run Terminal Help
login.py - flask - Visual Studio Code
RUN AND DEBUG
RUN
Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.
Release Notes: 1.72.0
login.py
login.html
login.py > login
BROWSER BREAKPOINTS
Type here to search

```
@app.route('/login', methods=['GET', 'POST'])
def login():
    error = None
    if request.method == 'POST':
        if request.form['username'] != 'admin' or request.form['password'] != 'admin':
            error = 'Invalid Credentials. Please try again.'
        else:
            return redirect(url_for('home'))
    return render_template('login.html', error=error)
```


File Edit Selection View Go Run Terminal Help
login.html - flask - Visual Studio Code
RUN AND DEBUG
Run and Debug
To customize Run and Debug create a launch.json file.
Show all automatic debug configurations.
Release Notes: 1.72.0
login.py
login.html
login.html > html
BREAKPOINTS
Type here to search

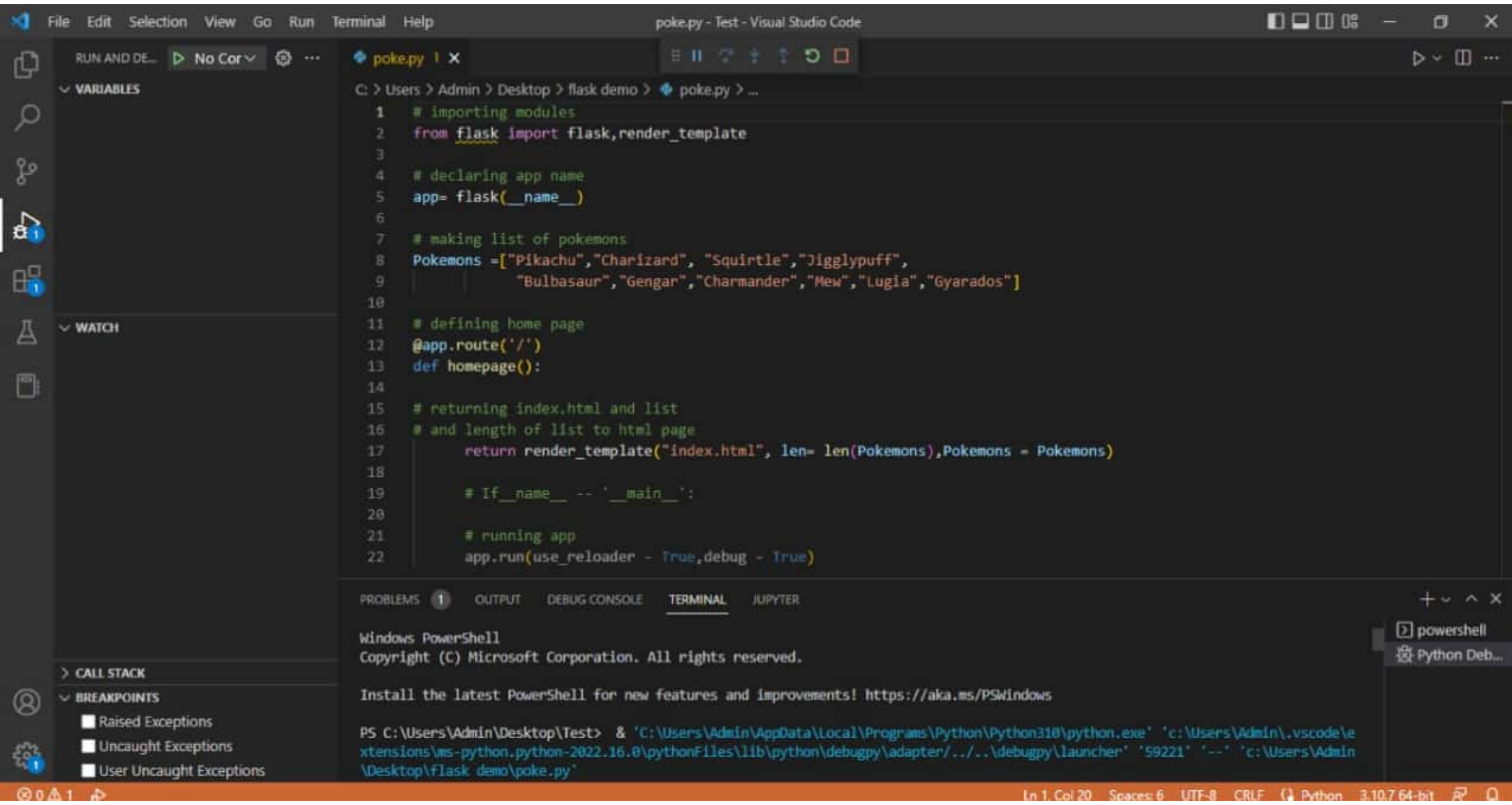
```html
<html>
  <head>
    <title>Flask Intro - login page</title>
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link href="static/bootstrap.min.css" rel="stylesheet" media="screen">
  </head>
  <body>
    <div class="container">
      <h1>Please login</h1>
      <br>
      <form action="" method="post">
        <input type="text" placeholder="Username" name="username" value="{{
          request.form.username }}">
         <input type="password" placeholder="Password" name="password" value="{{
          request.form.password }}">
        <input class="btn btn-default" type="submit" value="Login">
      </form>
      {% if error %}
        <p class="error"><strong>Error:</strong> {{ error }}
      {% endif %}
    </div>
  </body>
</html>
```



C:/Users/ELCOT/Desktop/app1/templates/login.html

Name ayush

Password google



File Edit Selection View Go Run Terminal Help
poke.py - Test - Visual Studio Code
RUN AND DE... ▷ No Cor
VARIABLES
WATCH
CALL STACK
BREAKPOINTS
□ Raised Exceptions
□ Uncaught Exceptions
□ User Uncaught Exceptions
poke.py
C: > Users > Admin > Desktop > flask demo > poke.py > ...
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
powershell
Python Deb...
⊗ 0 ⚠ 1
Ln 1, Col 20 Spaces: 6 UTF-8 CRLF Python 3.10.7 64-bit

```python
# importing modules
from flask import flask,render_template

# declaring app name
app= flask(__name__)

# making list of pokemons
Pokemons =["Pikachu","Charizard", "Squirtle","Jigglypuff",
            "Bulbasaur","Gengar","Charmander","Mew","Lugia","Gyarados"]

# defining home page
@app.route('/')
def homepage():

# returning index.html and list
# and length of list to html page
      return render_template("index.html", len= len(Pokemons),Pokemons = Pokemons)

      # If__name__ == '__main__':

      # running app
      app.run(use_reloader = True,debug = True)
```

```
Windows PowerShell
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PS C:\Users\Admin\Desktop\Test>  & 'C:\Users\Admin\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\Admin\.vscode\e
xtensions\ms-python.python-2022.16.0\pythonFiles\lib\python\debugpy\adapter/../..\debugpy\launcher' '59221' '--' 'c:\Users\Admin
\Desktop\flask demo\poke.py'
```

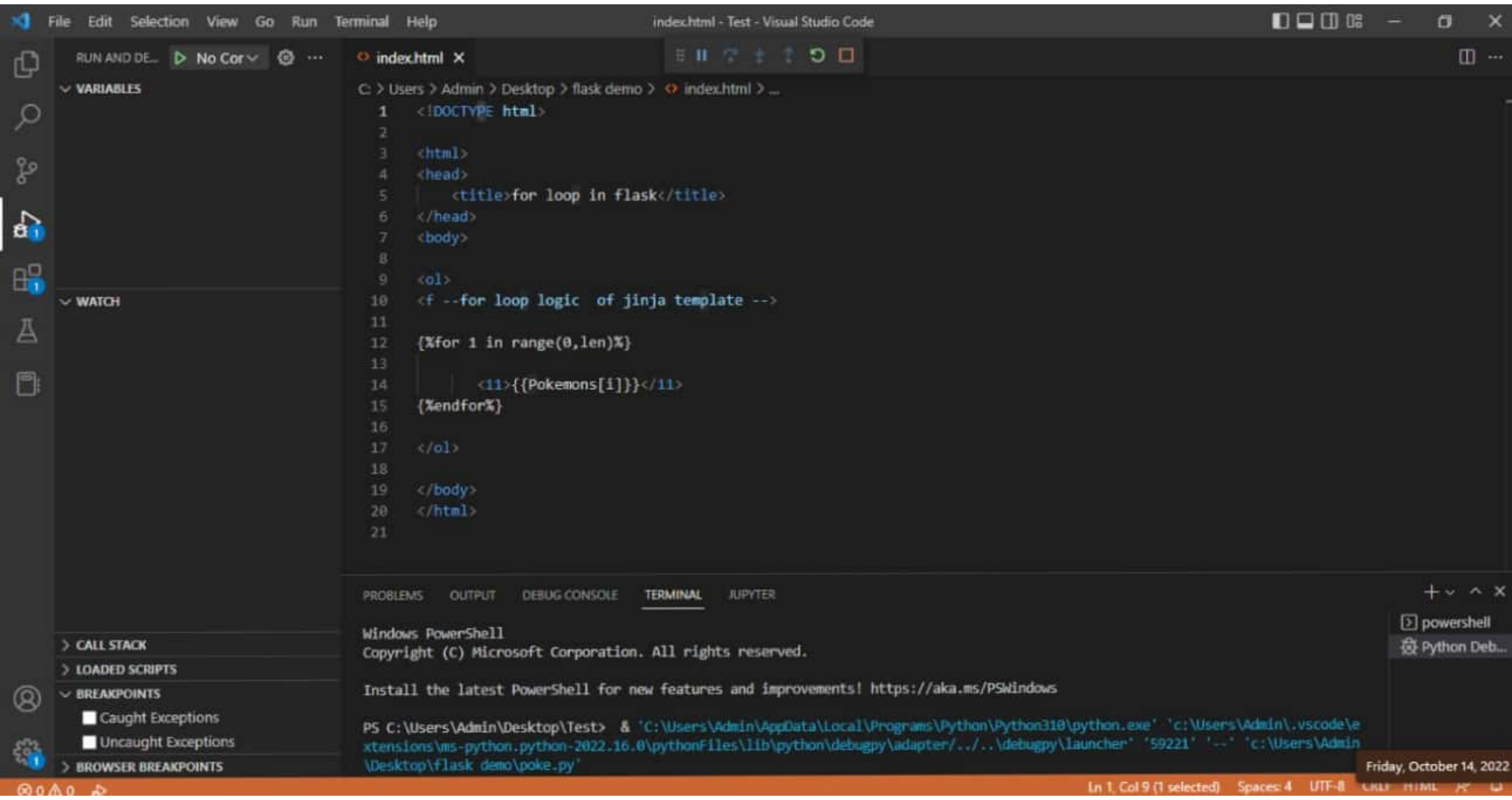
File Edit Selection View Go Run Terminal Help
index.html - Test - Visual Studio Code
RUN AND DE... No Cor
VARIABLES
WATCH
CALL STACK
LOADED SCRIPTS
BREAKPOINTS
☐ Caught Exceptions
☐ Uncaught Exceptions
BROWSER BREAKPOINTS
index.html
C: > Users > Admin > Desktop > flask demo > index.html > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
powershell
Python Deb...
Friday, October 14, 2022
Ln 1, Col 9 (1 selected) Spaces: 4 UTF-8 CRLF HTML

```
<!DOCTYPE html>

<html>
<head>
    <title>for loop in flask</title>
</head>
<body>

<ol>
<f --for loop logic  of jinja template -->

{%for 1 in range(0,len)%}

        <l1>{{Pokemons[i]}}</l1>
{%endfor%}

</ol>

</body>
</html>

```

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Admin\Desktop\Test>  & 'C:\Users\Admin\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\Admin\.vscode\e
xtensions\ms-python.python-2022.16.0\pythonFiles\lib\python\debugpy\adapter/../..\debugpy\launcher' '59221' '--' 'c:\Users\Admin
\Desktop\flask demo\poke.py'
```

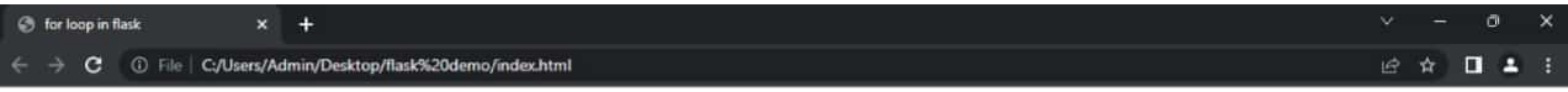

```
{%for 1 in range(0,len)%} <11>{{Pokemons[i]}} {%endfor%}
```