Python and web

By JJ

```
<!DOCTYPE html>
<!-- form-1.html -->
<!-- Form with a text field. -->
<html>
  <head>
    <meta charset = "utf-8">
    <title>Forms</title>
  </head>
  <body>
    <h1>Feedback Form</h1>
```

```
    <p>Please fill out this form to help us
      improve our site.</p>
    <!-- this tag starts the form, gives the -->
    <!-- method of sending information and the -->
    <!-- location of the form-processing script -->
<form method = "post" action = "processname.cgi">
      <!-- <input type = "text"> inserts name field -->
      <p><label>Name:
          <input name = "name" type = "text" size = "25"
            maxlength = "30">
        </label></p>
      <p>
        <!-- input types "submit" and "reset" insert -->
        <!-- buttons for submitting and clearing the --
        >
        <!-- form's contents, respectively -->
```

```
        <input type = "submit" value = "Submit">
        <input type = "reset" value = "Clear">
      </p>
    </form>
  </body>
</html>
```

Processname.cgi

- #!C:\Python34\python.exe
- import cgi

- def htmlTop():
- print("""Content-type: text/html\n\n
- <!DOCTYPE html>
- <html>

- <head lang="en">
- <meta charset="utf-8"/>
- <title> Form 1</title>
- </head>
- <body>""")

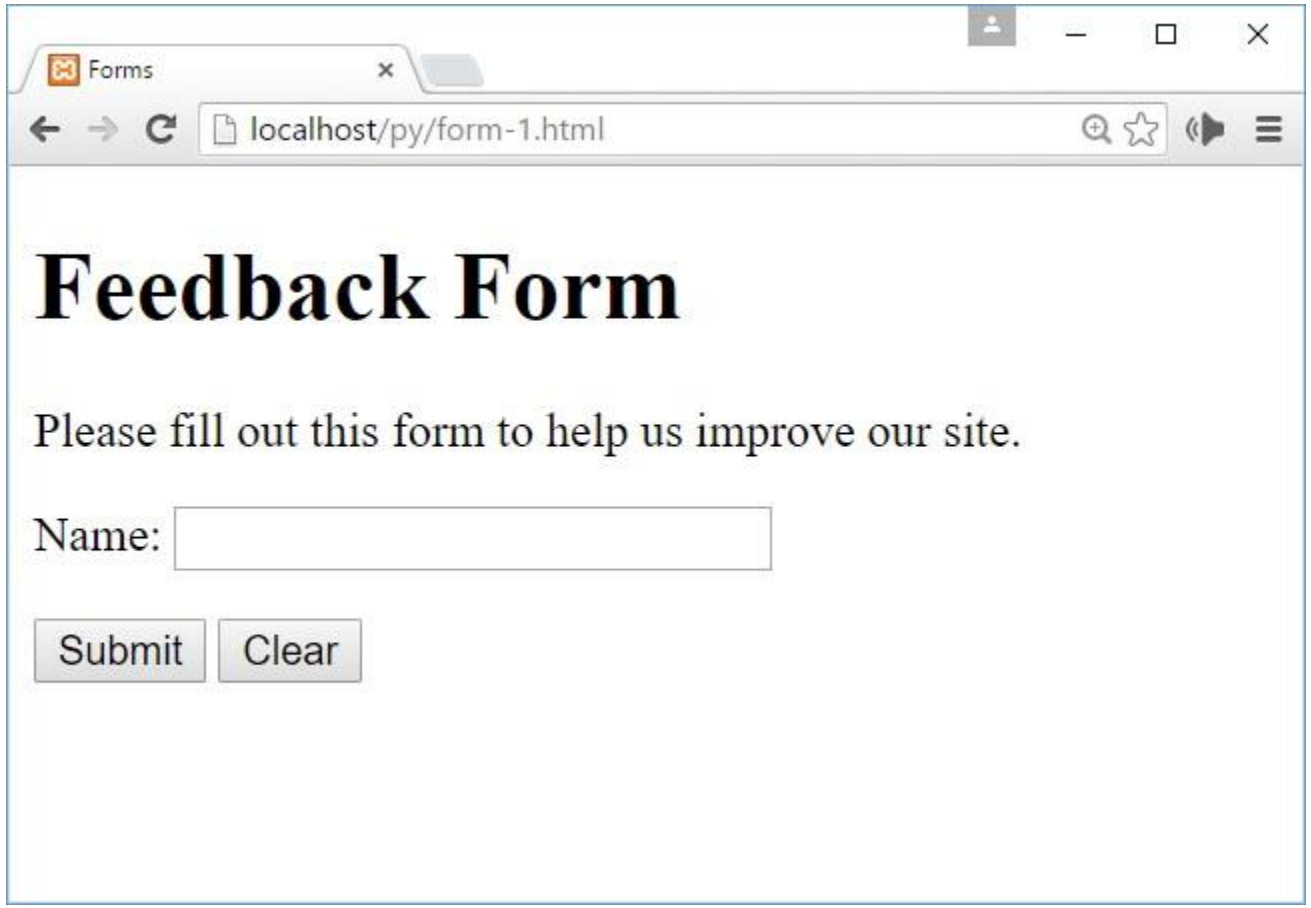
Processname.cgi (cont.)

- def htmlTail():
- print("""</body>
- </html>""")

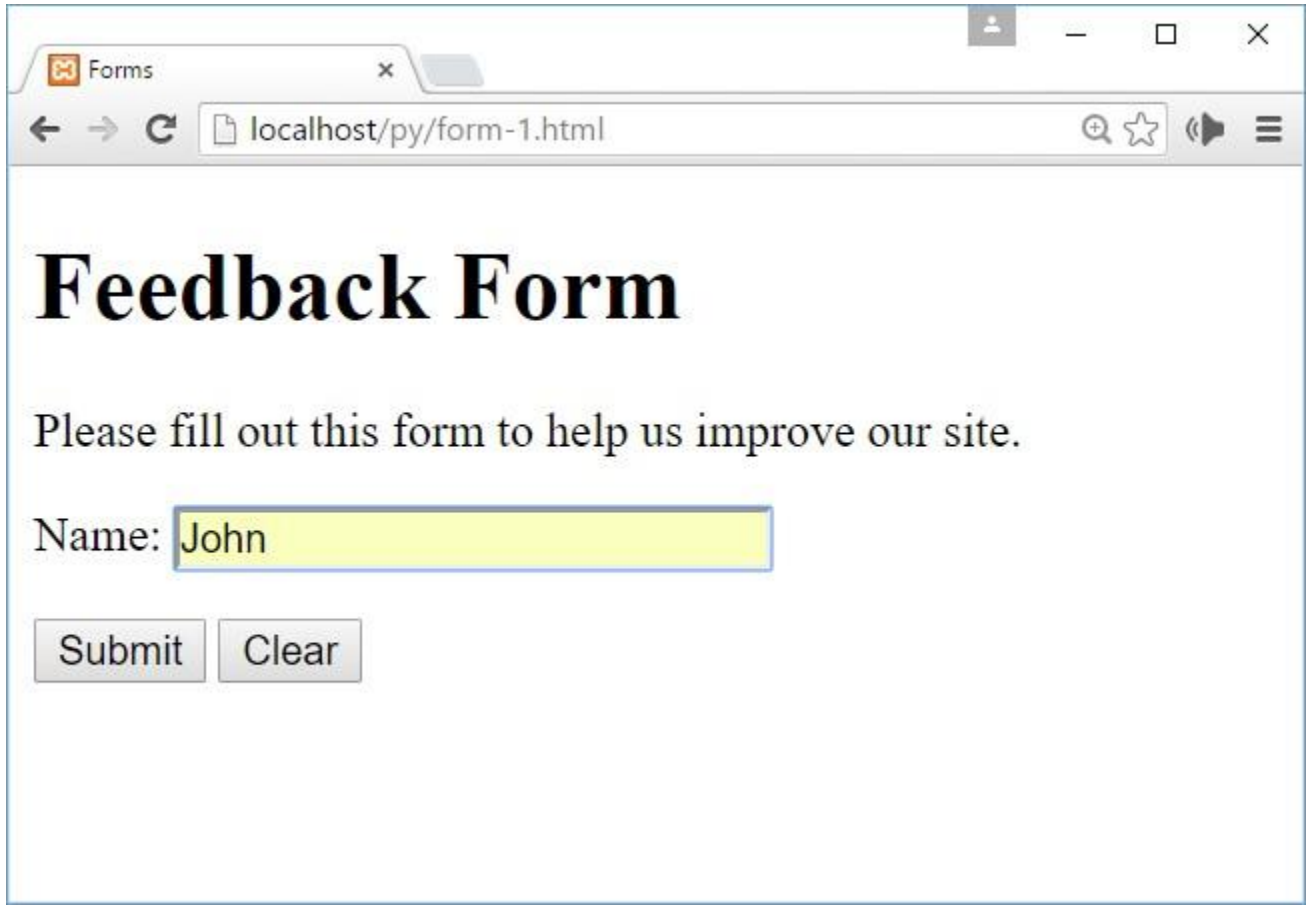
- #main program • if __name__ == "__main__":
- try:
- htmlTop()
- formData = cgi.FieldStorage()

- guestName = formData.getvalue('name')
- print("Welcome to Wonder land, ", guestName)
- #print("Welcome to our web site, {0}".format(guestName)) • htmlTail() • except:
- cgi.print_exception()

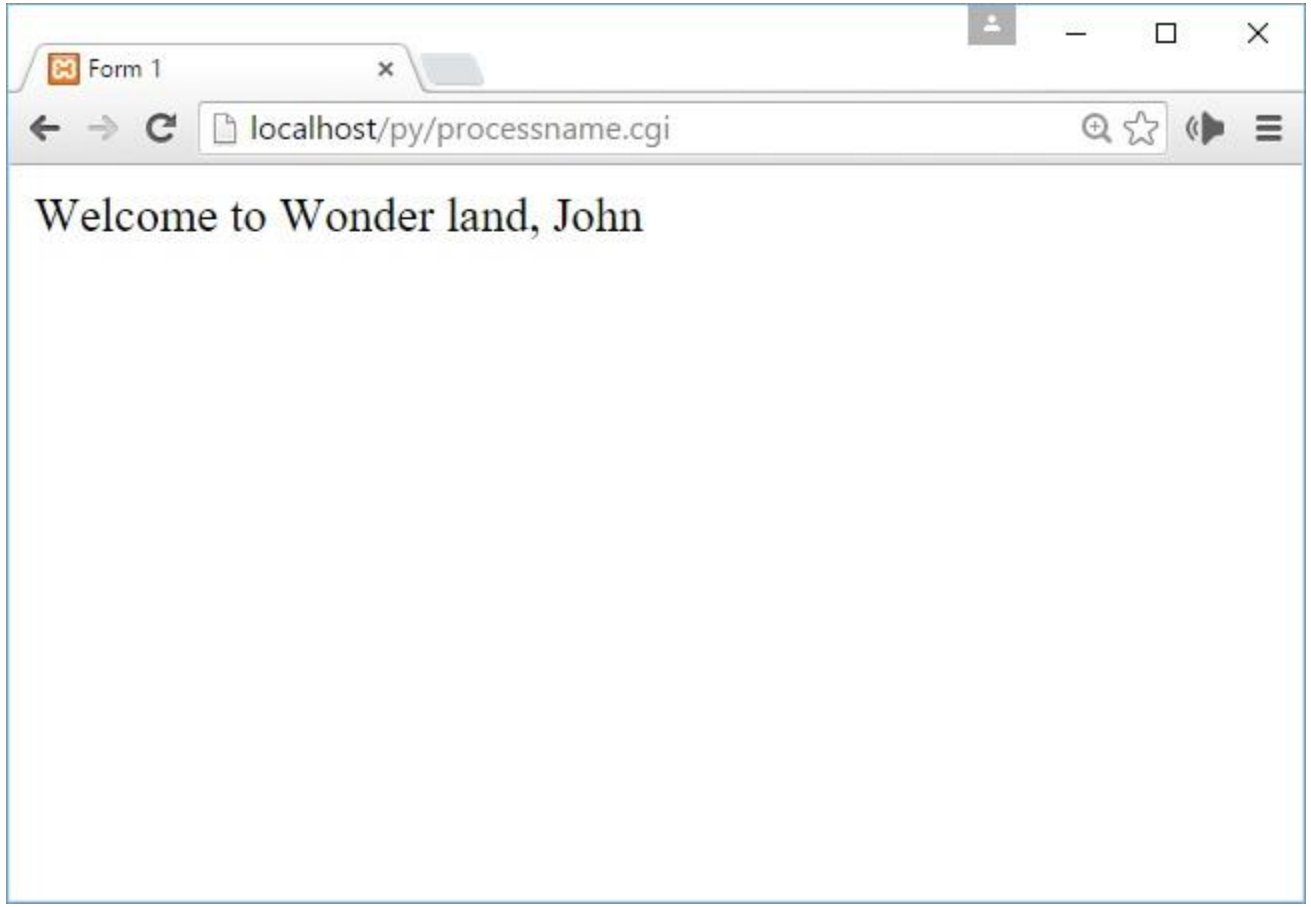
A simple form



Enter a name


Forms
localhost/py/form-1.html
Feedback Form
Please fill out this form to help us improve our site.
Name: John
Submit
Clear

After processed by processname.cgi



Form-2.html

```
<!DOCTYPE html>

<!-- form-2.html -->
<!-- Form using a variety of web components. -->
<html>
  <head>
    <meta charset = "utf-8">
    <title>Feedback Form</title>
  </head>

  <body>
    <h1>Feedback Form</h1>
    <p>Please fill out this form.</p>
```

Form-2.html (cont.)

```
<form method = "post" action = "processForm.cgi">
      <p><label>Name:
          <input name = "name" type = "text" size = "25">
        </label></p>

      <!-- multiline textbox -->
      <p><label>Comments:<br>
        <textarea name = "comments" rows = "5" cols = "40">Please enter
      your comments here.</textarea> </label></p>
<p><label>E-mail Address:
       <input name = "email" type = "password"  size = "25">
```

```
    </label></p>
    <p>
      <strong>Things you liked:</strong><br>
      <label>Reading
        <input name = "thingsliked" type = "checkbox"  value = "Reading"></label>
      <label>Driving
        <input name = "thingsliked" type = "checkbox"  value = "Driving"></label>
      <label>Cooking
        <input name = "thingsliked" type = "checkbox"   value = "Cooking"></label>
      <label>Traveling
        <input name = "thingsliked" type = "checkbox" value = "Traveling"></label>
      <label>Shopping
        <input name = "thingsliked" type = "checkbox" value = "Shopping"></label>
    </p>
<p>
```

```
<strong>Your favorite Subject?:</strong><br>
<label>Finance
  <input name = "subject" type = "radio"
    value = "Finance" checked></label>
<label>C++
  <input name = "subject" type = "radio"
    value = "C++"></label>
<label>Python
  <input name = "subject" type = "radio"
    value = "Python"></label>
<label>Math
  <input name = "subject" type = "radio"
    value = "Math"></label>
<label>Other
  <input name = "subject" type = "radio"
    value = "other"></label>
```

```
  </p>
<p>
    <label>Rate our web site:
        <select name = "rating">
          <option selected>Excellent</option>
          <option>10</option>
          <option>9</option>
          <option>8</option>
          <option>7</option>
          <option>6</option>
          <option>5</option>
          <option>4</option>
          <option>3</option>
          <option>2</option>
          <option>1</option>
          <option>Awful</option>
```

```
    </select>
  </label>
</p>
```

Form-2.html (cont.)

-
- <input type = "submit" value = "Submit">
- <input type = "reset" value = "Clear">
-
- </form>
- </body>

- </html>

ProcessForm.cgi

- #!C:\Python34\python.exe
- import cgi • def htmlTop():
- print("""Content-type: text/html\n\n
- <!DOCTYPE html>
- <html>
- <head lang="en">
- <meta charset="utf-8"/>
- <title> Form 1</title>
- </head>
- <body>""")
- def htmlTail():

- print("""</body>
- </html>""")

ProcessForm.cgi (cont.)

- #main program
- if __name__ == "__main__":
- try:
- htmlTop()
- formData = cgi.FieldStorage()
- guestName = formData.getvalue('name')
- print("Welcome to Wonder land, ", guestName)
- comments = formData.getvalue('comments')
- comments = "
".join(comments.split("\n"))
- print("
Thank you for your comments:
 ", comments, "
")

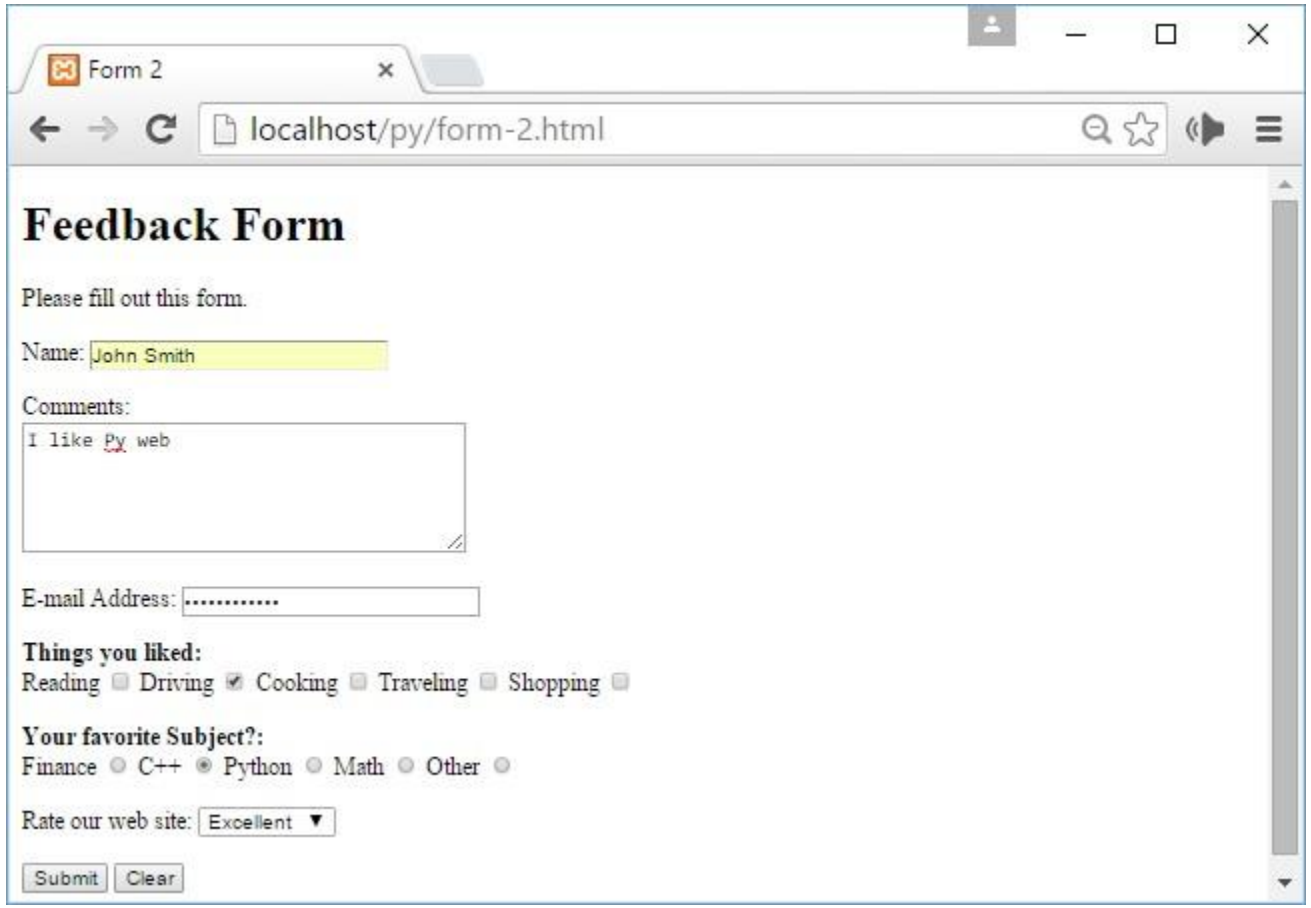
- email = formData.getvalue('email')
- print("
Your email address is:
 ", email)

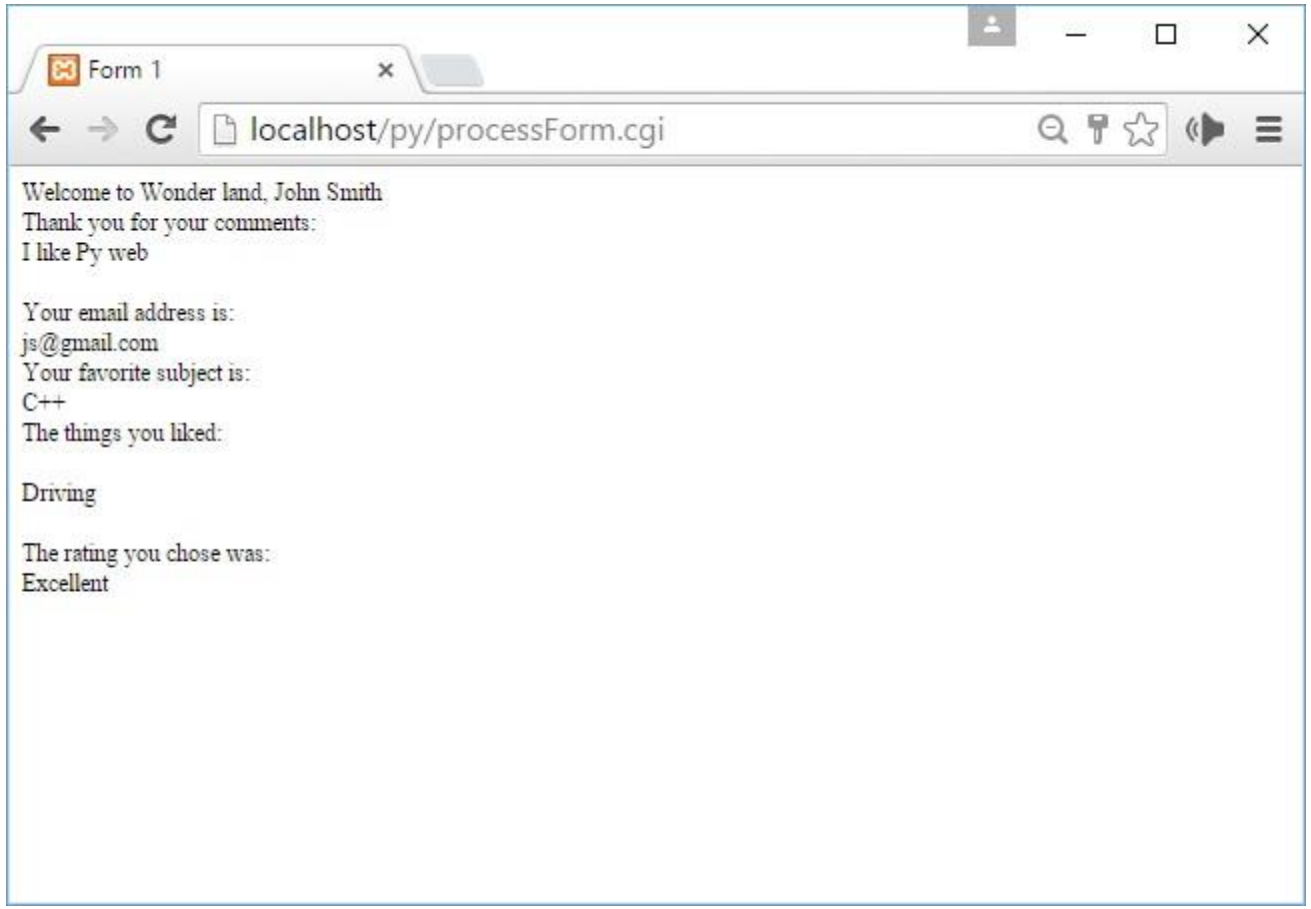
ProcessForm.cgi (cont.)

- subject = formData.getvalue('subject')
- print("
Your favorite subject is:
 ", subject)
- thingsliked = formData.getvalue('thingsliked') • print("
The things you liked:
 ")
- for thing in thingsliked:
- print(" ", thing, end="
")
- rating = formData.getvalue('rating')
- print("
The rating you chose was:
 ", rating)
-
- htmlTail()

- except:
- cgi.print_exception()

Test run of process form




Form 1
localhost/py/processForm.cgi
Welcome to Wonder land, John Smith
Thank you for your comments:
I like Py web
Your email address is:
js@gmail.com
Your favorite subject is:
C++
The things you liked:
Driving
The rating you chose was:
Excellent

Using table to output posted data (same interface different script to process the form)

```
<html>
  <head>
    <meta charset = "utf-8">
    <title>Form 3</title>
  </head>

  <body>
    <h1>Feedback Form</h1>
```

Please fill out this form.

<form method = "post" action = "processFormTable.cgi">

ProcessFormTable

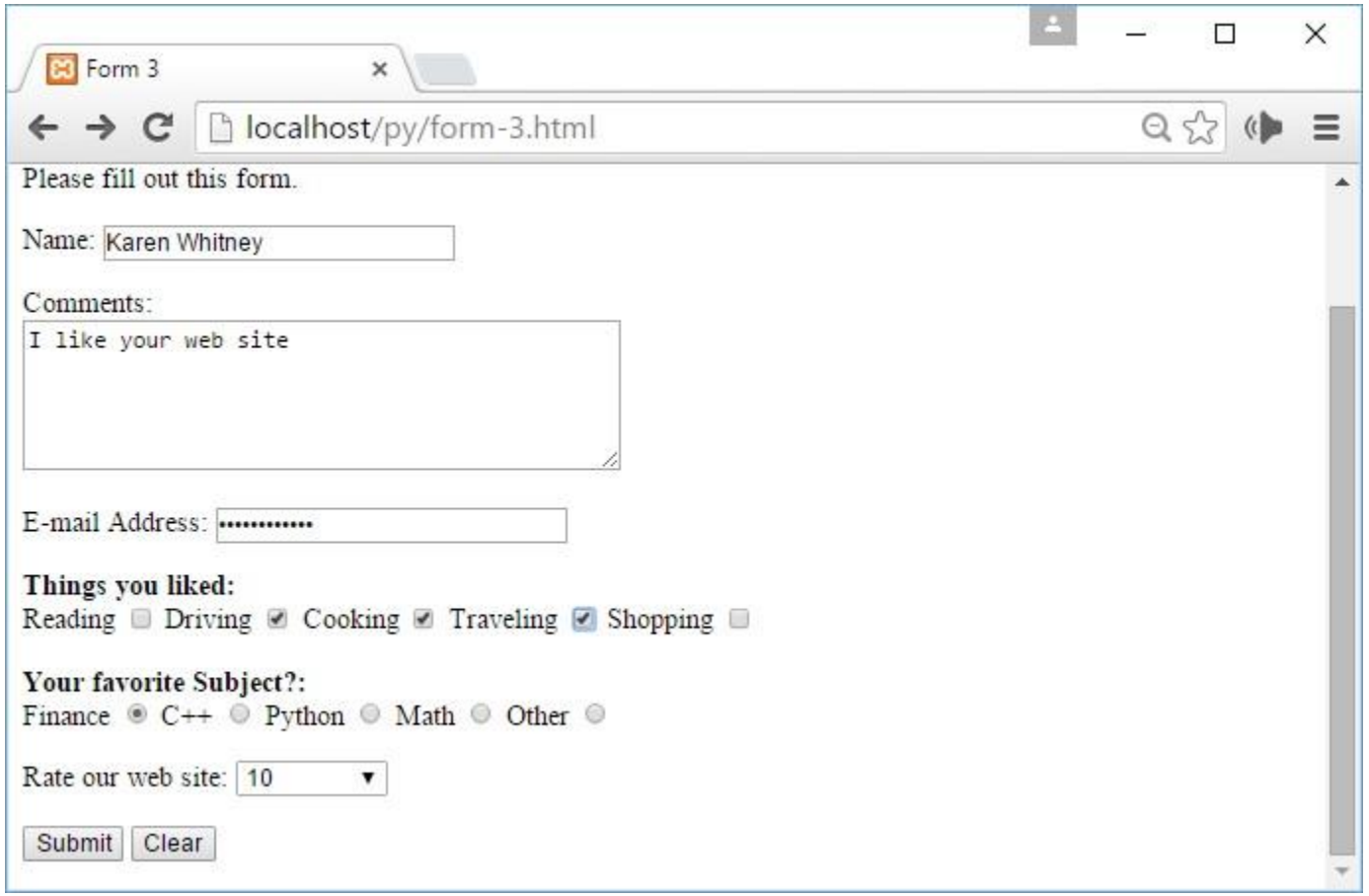
- #!C:\Python34\python.exe
- import cgi • def htmlTop():
- print("""Content-type: text/html\n\n
- <!DOCTYPE html>
- <html>
- <head lang="en">
- <meta charset="utf-8"/>
- <title> Form 1</title>
- </head>
- <body>""")

```
def htmlTail():
print("""</body>
</html>""")
#main program • if __name__ == "__main__":
try:
htmlTop()
formData = cgi.FieldStorage()
guestName = formData.getvalue('name')
comments = formData.getvalue('comments')
comments = "<br />".join(comments.split("\n"))
email = formData.getvalue('email')
thingsliked = formData.getvalue('thingsliked')
subject = formData.getvalue('subject')
rating = formData.getvalue('rating') print("<h1>Thank you ", guestName, " to visit our Wonder Land!</h1>") print("<table border='5'>") print("<tr><td>")
```

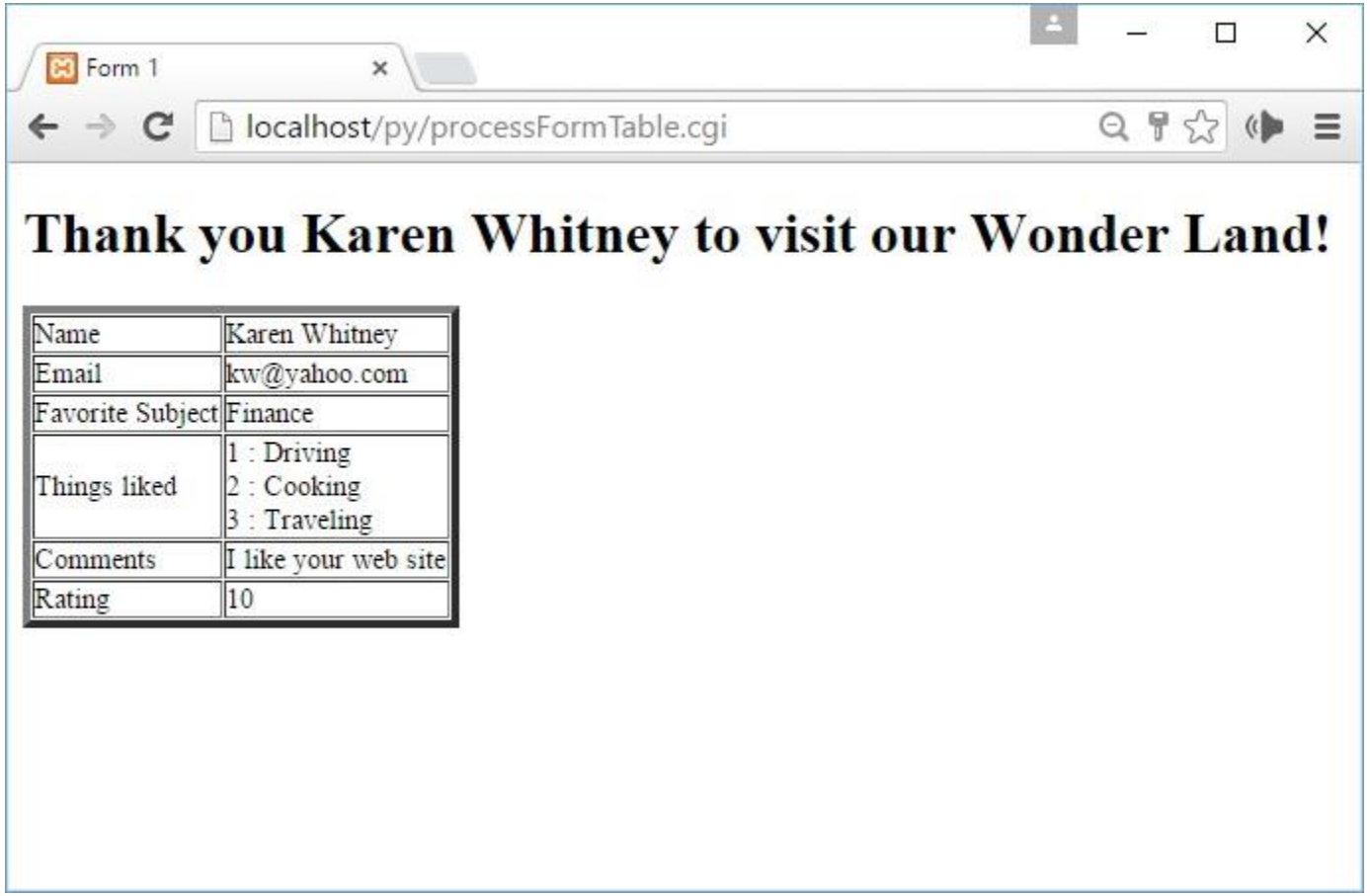
```
        print("Name") print("</td><td>") print(guestName) print("</td></tr>")
        print("<tr><td>") print("Email") print("</td><td>") print(email)
        print("</td></tr>")
print("<tr><td>")
    print("Favorite Subject")
    print("</td><td>")
    print(subject)
    print("</td></tr>")

    print("<tr><td>")
    print("Things liked")
    print("</td><td>") for i in
    range(len(thingsliked)):
       print(i+1, ":", thingsliked[i], "<br />")
    print("</td></tr>")
```

```
 print("<tr><td>")
        print("Comments")
        print("</td><td>")
        print(comments)
        print("</td></tr>")
print("<tr><td>")
        print("Rating")
        print("</td><td>")
        print(rating)
        print("</td></tr>")
        print("</table>")
        htmlTail()
    except:
        cgi.print_exception()
```

Test run


Form 3
localhost/py/form-3.html
Please fill out this form.
Name: Karen Whitney
Comments:
I like your web site
E-mail Address:
Things you liked:
Reading Driving Cooking Traveling Shopping
Your favorite Subject?:
Finance C++ Python Math Other
Rate our web site: 10
Submit Clear

The form after processed by processFromTable.cgi



Query MySql database

```
<!DOCTYPE html>

<!-- data-manager.html -->
<!-- query a MySQL database. -->
<html>
  <head>
    <meta charset = "utf-8">
    <title>Database Query Manager</title>
  </head>
  <body>
    <h1>Querying a MySQL database.</h1>
```

```
<form method = "post" action = "database-query.cgi">
      <p>Select a field to display:
        <!-- add a select box containing options -->
        <!-- for SELECT query -->
        <select name = "select">
          <option selected>*</option>
          <option>ID</option>
          <option>Title</option>
          <option>Category</option>
          <option>ISBN</option>
        </select></p>
      <p><input type = "submit" value = "Send Query"></p>
    </form>
  </body>
```

</html>

The connectDB function

- #!C:\Python34\python.exe
- import cgi
- import mysql.connector
- #from mysql.connector
  import errorcode

- def connectDB(DB_NAME):
- #DB_NAME = 'Products'

The

- cnx =
  mysql.connector.connect(us
  er='iw3htp',
  password='password',
- host='127.0.0.1',
- database=DB_NAME)
- return cnx

retrieveInfo function

The

```
def retrieveInfo(conn,
    query): cursor =
    conn.cursor()
    cursor.execute(query)
    results = cursor.fetchall()
    cursor.close() conn.close()
    # note results is now a list
    return results
```

The displayResult function

```
def displayResults(which, results):
    print("<h1>You Select =>", which,
    "</h1>") print("<table border='5'>") if
    (which == "*"): print("<th>ID</th>")
    print("<th>Title</th>")
    print("<th>Category</th>")
    print("<th>ISBN</th>")
    else:
```

The

```
print("<th>"+which+"</th>")
```

displayResult function (cont.)

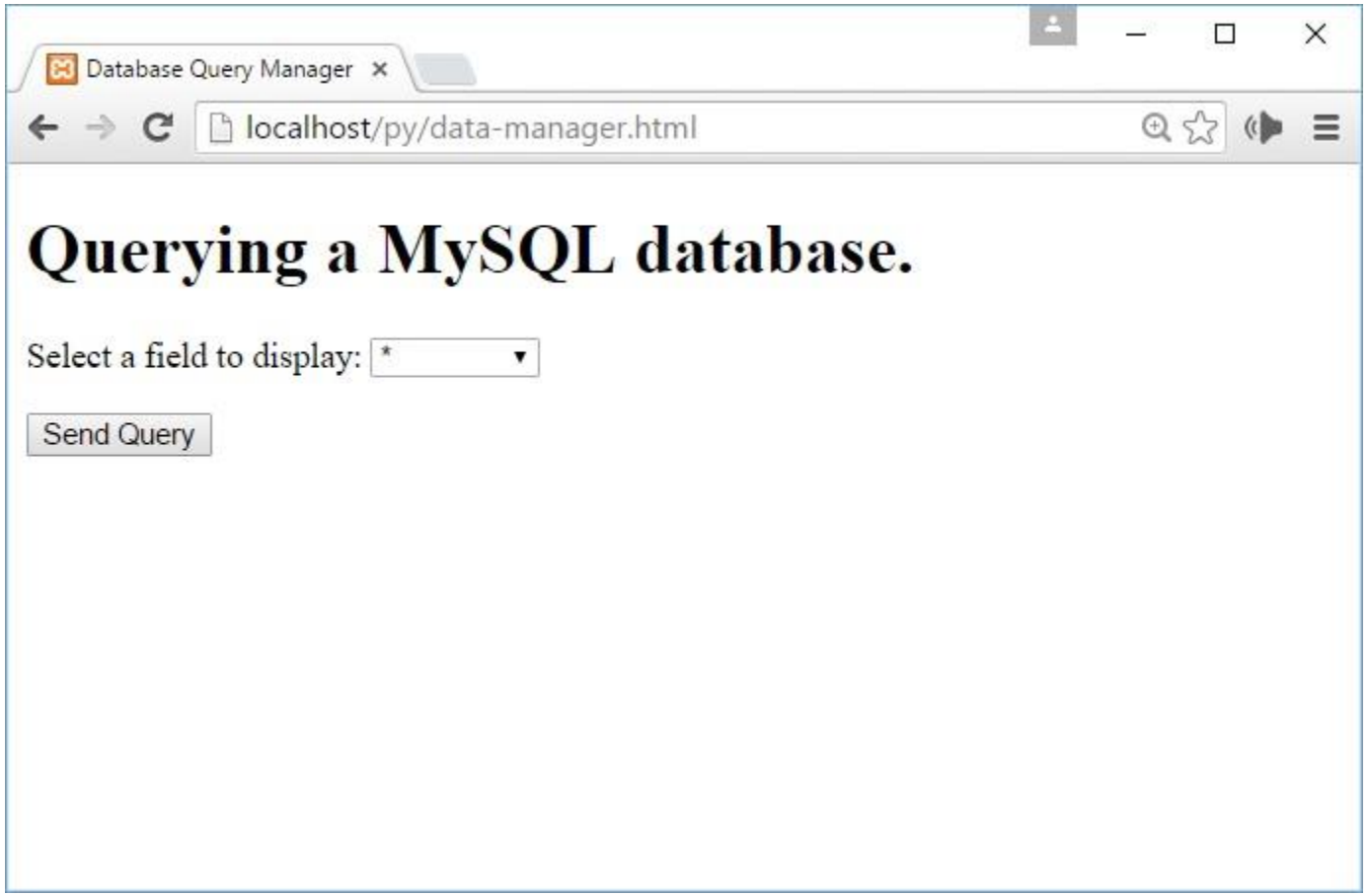
```
print("<tr>") for
   book in results:
      for i in range(len(book)):
         print("<td>")
         print(book[i])
         print("</td>")
      print("</tr>")

   print("</table>")
```

The htmlTop and htmlTail functions

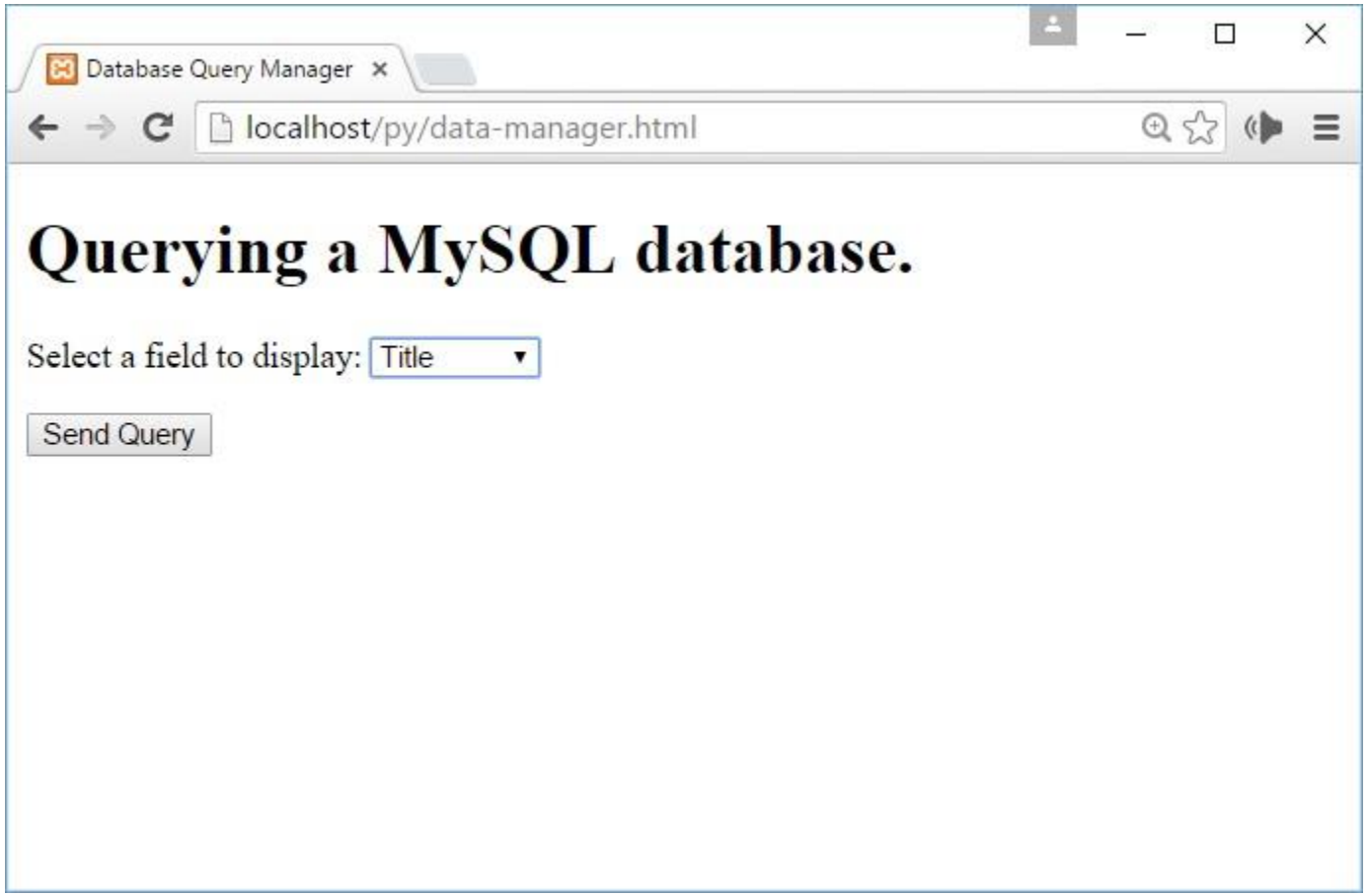
```
def htmlTop():
    print("""Content-type: text/html\n\n
            <!DOCTYPE html>
            <html>
            <head lang="en">
            <meta charset="utf-8"/>
            <title> Form 1</title>
            </head>
            <body>""")
def htmlTail():
    print("""</body>
        </html>""")
```

```
#main program if __name__
== "__main__": try:
        htmlTop() formData =
        cgi.FieldStorage() which =
        formData.getvalue('select')

        conn = connectDB("Products") query =
        "select "+which+" FROM tempbooks" results
        = retrieveInfo(conn, query) displayResults
        (which, results) htmlTail()
    except:
        cgi.print_exception()
```

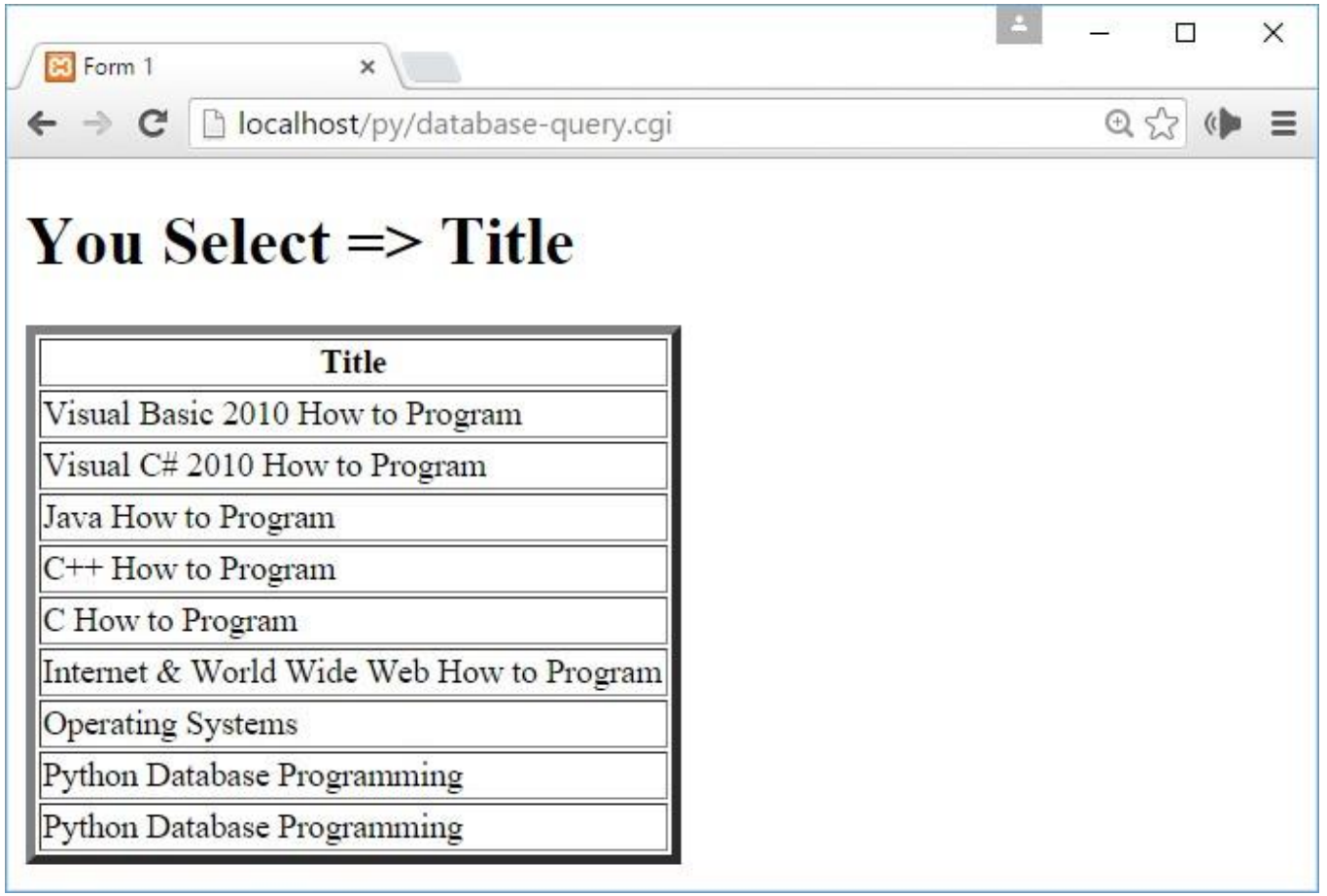
Database manager test run



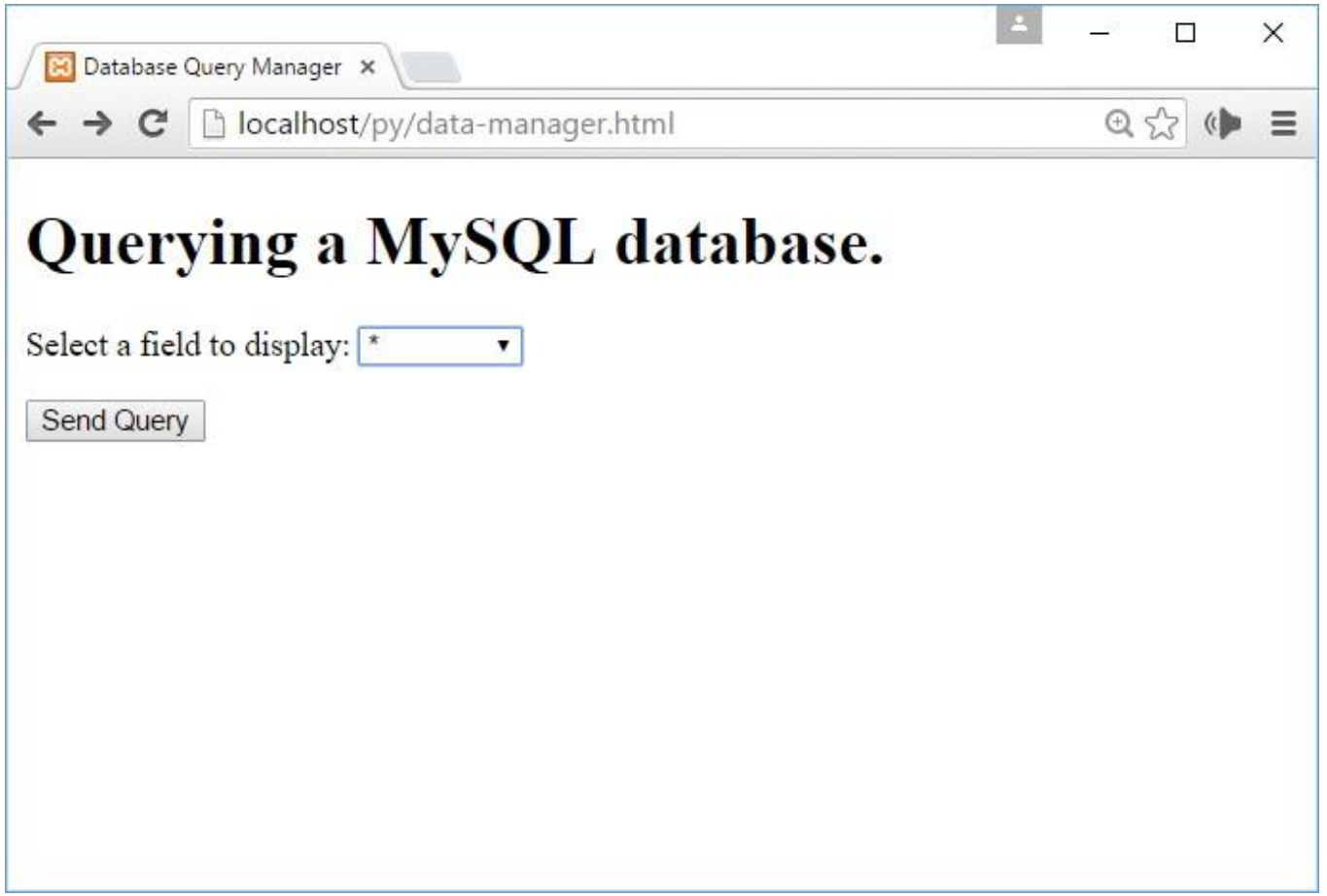
Select title



All titles shown



Select * mean all



Everything shown