

# DNS client

Submit Assignment

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**Due** Sunday by 11:59pm      **Points** 100      **Submitting** a file upload      **File Types** py  
**Available** until Feb 9 at 11:59pm

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we are going to write a DNS client in python. you will use the socket package, the click package, and the struct package. also, make sure you are using python3.

the requirement is pretty simple: given a name resolve an IP address and given an IP address, you need to resolve a name.

your program will figure out if you are doing an IP address or a name by checking the format of the argument to see if it looks like an IP address. you only need to check for IPv4 addresses, so look for 4 decimal integers from 0-255 separated by dots.

when you resolve a name, you need to resolve both the IPv4 and IPv6 address (if available for the name).

call your program DNSclient.py. use the click package two arguments: first the DNS server and the second the name to query. here are some example runs (the addresses you get might be different):

```
$ python3 DNSclient.py 8.8.8.8 google.com
172.217.14.174
2607:f8b0:4000:801:0:0:200e
```

```
$ python3 DNSclient.py 8.8.8.8 yahoo.com
98.137.11.164
74.6.143.25
74.6.143.26
74.6.231.21
98.137.11.163
74.6.231.20
2001:4998:44:3507:0:0:0:8001
2001:4998:124:1507:0:0:0:f00
2001:4998:24:120d:0:0:0:1:1
```

```
$ python3 DNSclient.py 8.8.8.8 157.240.22.35
edge-star-mini-shv-01-sjc3.facebook.com
```

```
$ python3 DNSclient.py 8.8.8.8 noname.not.exist
not found
```

```
$ python3 DNSclient.py 8.8.8.8 10.10.10.10
not found
```

# submit

submit a single file: DNSclient.py. the only package outside of standard python3 that you can use is click.

DNSclient					
Criteria	Ratings			Pts	
uses click program arguments are processed using click	10 pts Full Marks	0 pts No Marks		10 pts	
recognizes IP address queries properly	10 pts Full Marks	0 pts No Marks		10 pts	
successfully resolves all IPv4 addresses for given names	20 pts Full Marks	10 pts not all addresses are resolved		0 pts No Marks	20 pts
successfully resolves all IPv6 addresses for given names	20 pts Full Marks	10 pts not all addresses are resolved		0 pts No Marks	20 pts
successfully resolves hostname for a given IPv4 address	20 pts Full Marks	0 pts No Marks		20 pts	
correctly prints an error if hostname not found	10 pts Full Marks	0 pts No Marks		10 pts	
correctly prints an error if IP address not found	10 pts Full Marks	0 pts No Marks		10 pts	
Total Points: 100					