HW1 Part B

The flow of the code:

1) For DNS resolution, logic from part A is used but the resolution is made in zones
   For **zone** resolution, the hostname is divided into zones:

```
if name.endswith('.'):
        name = name[:-1]
    zones = name.split(".")
    zones.reverse()
    new_zone = zones[0]
    i = 1
```

2) These zones are then resolved if the DNSSEC is validated for that zone

3) **Validation Function (name, nserver):**
   Takes the current name and server as the input and exits the code if DNSSec conditions fail at any point.
   3 passes were used to validate the zone:
   - **Pass 1:** Get the zone for the parent: validate the DNSKey and RRSIG
   - **Pass 2:** Make a query for the child and then validate the RRSIG and DS
   - **Pass 3:** Check if the DS is not an object of NSEC and NSEC3.
     1. Get new DS using SHA256
     2. Check this DS with the previous one (Global variable)

   Note:
   - if DS is an object of NSEC or NSEC3 then the domain does not support DNSSec
   - If any of these passes fail then exit() the code -> DNSSec Validation failed
   - dns.dnssec.validate() is used for validation