INF 551 – Fall 2017 (Afternoon section)
Quiz 5: File Formats (10 points), 15 minutes

1. [6 points] Unicode code point for the Chinese character 你 (means "you") is U+4F60. Give its **UTF-8** encoding in both **binary** and **hexadecimal** formats.

   U+4F60: 0100 111101 100000
   Binary UTF-8: 11100100 10111101 10100000

   Hexadecimal UTF-8: E4 BD A0

2. [4 points] Consider an JSON document "person.json" as show below. Consider loading it into Python as an object p: p = json.load(open("person.json")). Write a Python script for each question below.

   a. What is the last name of the person?

      p["lastName"]

   b. Which city does the person live?

      p["address"]["city"]

   c. What is his **second** phone number?

      p["phoneNumbers"][1]["number"]

```json
{
  "firstName": "John",
  "lastName": "Smith",
  "isAlive": true,
  "age": 25,
  "address": {
    "streetAddress": "21 2nd Street",
    "city": "New York",
    "state": "NY",
    "postalCode": "10021-3100"
  },
  "phoneNumbers": [
    {
      "type": "home",
      "number": "212 555-1234"
    },
    {
      "type": "office",
      "number": "646 555-4567"
    }
  ],
  "children": [],
  "spouse": null
}
```

   d. How many children does the person have?
      len(p["children"])