Python installation:

```
Last login: Fri Feb  9 19:10:52 on console
[Divyas-MBP:~ divyamereddy$ python3
Python 3.6.4 (v3.6.4:d48ecebad5, Dec 18 2017, 21:07:28)
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> █
```

Installed hexdump and avro using PIP:

```
>>> exit()
divyas-mbp:avro-1.7.7 divyamereddy$ pip3 install hexdump
Collecting hexdump
  Downloading hexdump-3.3.zip
Installing collected packages: hexdump
  Running setup.py install for hexdump ... done
Successfully installed hexdump-3.3
divyas-mbp:avro-1.7.7 divyamereddy$ pip3 install avro-Python3
Collecting avro-Python3
  Downloading avro-python3-1.8.2.tar.gz
Installing collected packages: avro-Python3
  Running setup.py install for avro-Python3 ... done
Successfully installed avro-Python3-1.8.2
divyas-mbp:avro-1.7.7 divyamereddy$ █
```

import avro.schema

```
>>> import avro.schema
>>> dir(avro.schema)
['ARRAY', 'ArraySchema', 'AvroException', 'BOOLEAN', 'BYTES', 'DEBUG_VERBOSE', 'DOUBLE', 'ENUM',
, 'Field', 'FilterKeysOut', 'FixedSchema', 'INT', 'ImmutableDict', 'LONG', 'MAP', 'MapSchema', 'N
', 'REQUEST', 'RecordSchema', 'SCHEMA_RESERVED_PROPS', 'STRING', 'Schema', 'SchemaFromJSONData',
ypeMap', '_NO_DEFAULT', '_RE_FULL_NAME', '_RE_NAME', '_SchemaFromJSONArray', '_SchemaFromJSONObje
, '__package__', '__spec__', 'abc', 'collections', 'json', 'logger', 'logging', 're']
>>> █
```
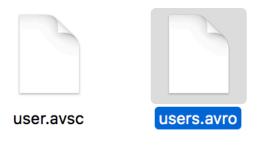
Code:

```
import avro.schema
from avro.datafile import DataFileReader, DataFileWriter
from avro.io import DatumReader, DatumWriter
schema = avro.schema.Parse(open("/Users/divyamereddy/user.avsc").read())
```

```
writer = DataFileWriter(open("/Users/divyamereddy/users.avro", "wb"), DatumWriter(),
schema)
writer.append({"name": "Alyssa", "favorite_number": 256})
writer.append({"name": "Ben", "favorite_number": 7, "favorite_color": "red"})
writer.close()

#Deserialization:

reader = DataFileReader(open("/Users/divyamereddy/users.avro", "rb"), DatumReader())
for user in reader:
    print (user)
reader.close()
```

Serializing:

After running output file is created:

user.avsc

users.avro

Data in User.avro:

```
[divyas-mbp:avro-1.7.7 divyamereddy$ od -c /Users/divyamereddy/users.avro
0000000    O   b   j 001 004 024   a   v   r   o   .   c   o   d   e   c
0000020   \b   n   u   l   l 026   a   v   r   o   .   s   c   h   e   m
0000040    a 272 003   {   "   t   y   p   e   "   :       "   r   e   c
0000060    o   r   d   "   ,       "   n   a   m   e   "   :       "   U
0000100    s   e   r   "   ,       "   n   a   m   e   s   p   a   c   e
0000120    "   :       "   e   x   a   m   p   l   e   .   a   v   r   o
0000140    "   ,       "   f   i   e   l   d   s   "   :       [   {   "
0000160    t   y   p   e   "   :       "   s   t   r   i   n   g   "   ,
0000200        "   n   a   m   e   "   :       "   n   a   m   e   "   }
0000220    ,       {   "   t   y   p   e   "   :       [   "   i   n   t
0000240    "   ,       "   n   u   l   l   "   ]   ,       "   n   a   m
0000260    e   "   :       "   f   a   v   o   r   i   t   e   _   n   u
0000300    m   b   e   r   "   }   ,       {   "   t   y   p   e   "   :
0000320        [   "   s   t   r   i   n   g   "   ,       "   n   u   l
0000340    l   "   ]   ,       "   n   a   m   e   "   :       "   f   a
0000360    v   o   r   i   t   e   _   c   o   l   o   r   "   }   ]   }
0000400   \0 217 301 212 355 356   o  \a 344 273   C   6 267 262   < 277
0000420   **  006   B  \f   A   l   y   s   s   a  \0 200 004 002 006   B
0000440    e   n  \0 016  \0 006   r   e   d 006   B   e   n  \0 016  \0
0000460   006   r   e   d 217 301 212 355 356   o  \a 344 273   C   6 267
0000500   262   < 277  **
0000504
```

Deserialization:

```
divyas-mbp:avro-1.7.7 divyamereddy$ python3 /Users/divyamereddy/DBTass1.py
{'name': 'Alyssa', 'favorite_number': 256, 'favorite_color': None}
{'name': 'Ben', 'favorite_number': 7, 'favorite_color': 'red'}
divyas-mbp:avro-1.7.7 divyamereddy$
```