In the ICMPping lab, you were given stubbed out code. The questions below are related to various parts of that code. To answer these questions you may use various sources available on the Internet. You will find that the Python documentation will be the most helpful resource.

1. What is the purpose of the select.select() function call (what is the generic purpose of a select() function call)?

   select.select() monitors sockets, open files, and pipes on the operating system level until they become readable or writable, or a communication error occurs.

2. Why is the select() function used in the program?

   It is used to obtain file descriptors for the socket passed in. The passed in socket is the list of socket descriptors that waits until ready for reading.

3. What other network programming purpose could the select() call be used for (other than what is stubbed out in the programming assignment)?

   select() can also take writelist and exceptionlist as a second and third parameter.

4. What is the generic purpose of the htons() function call?

Converts 16 bit positive integer from host byte order to network byte order.

5. Why is the htons() function call needed?

In networking, the numbers are stored as most significant byte first. It will modify the number from Little Endian to Big Endian.

6. The sample code creates a socket using the SOCK_RAW socket type. What is the difference between SOCK_RAW and the other types of sockets we have studied so far?

SOCK_RAW provides raw network protocol access at application level. With this, we can access every network stack header information.