Week2 Progrmmes

1. Implement a port scanner using socket programming. The port scanner checks a number of ports (for instance, from 1 to 1026) to see if they are open (a server is listening on that port number) or closed (a server is not listening on that port number)

2. Implement the following using TCP socket:

   When the server receives a message from a client, it simply converts the message by using following rule

   " If a character is a letter or a digit, it will be replaced with the next character in the character set, except that Z will be replaced by A, z by a and 9 by 0. Thus i becomes j, C becomes D, p becomes q and so on. Any character other than a letter or a digit will be replaced by a period(.)"

   and sends back the same to the client. This sending and receiving message should be done repeatedly until client and server send BYEBYE message.

3. Assume that there two servers, A and B, which store a 10MB file that is split into 10 parts. Client 1 requests the file to server A which replies to client 1 with 5 chunks of the requested file, which are randomly selected. Later on, client 1 identifies the missing chunks and it requests the missing chunks (and only them) to server B. Moreover, the Client 1 can request 1 piece of chunk at the same. Once all the chunks are received, Client 1 sends the THANKS message to both of the servers.