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Email server:
Mail servers can be broken down into two main categories: outgoing mail servers and incoming mail servers. Outgoing mail servers are known as SMTP, or Simple Mail Transfer Protocol, servers. Incoming mail servers come in two main varieties. POP3, or Post Office Protocol, version 3, servers are best known for storing sent and received messages on PCs' local hard drives. IMAP, or Internet Message Access Protocol, servers always store copies of messages on servers. Most POP3 servers can store messages on servers, too, which is a lot more convenient.
I had chosen gmail for the server because it was very fast and great an easy to setup. Gmail allowed me to open access to the host servers and was very efficient easy to set up compared to other client servers using my own methods.
The Gmail server was used for both the main programming files- SendEmailApplication and CheckingEmailApplication as it kept it easy to use and not mix it up too much. This aim was for simplicity in both programming design and use of functions.

SendEmailApplication:
The SendEmailApplication was based upon the gmail server as stated before, for the sender email I had used the Java API which allowed me functions to connect to the gmail server, which is called smtp.gmail.com. The Simple mail Transfer Protocol is used to send the mails to a server. The mail sender server communicates to the mail recipient, through the use of commands and provides significant information over TCP connection. The protocol session has commands started from the client side of SMTP which then received responses from the receiver or the smtp server for the session to open and the exchange of session parameters to operate. The port which was available to connect is numbered 587, this was accessed using the Google support page. TLS is a cryptographic protocols that provides communications security over a computer network. Several versions of these protocols find widespread use in applications such as web browsing and emails etc. Websites use TLS generally to secure all communications within their communication links such as VOIP etc.

CheckEmailApplication:
The read application was also based upon the gmail server. For the CheckEmailApplication I had used the Java API for the check emails as well, this is also called smtp.gmail.com provided through the google server settings page. The port that allowed connection was 587 for POP3 which is used by local email clients to retrieve email from a remote server over a TCP/IP connection due to its security.

EmailApplication

The EmailApplication file allows for the execution of the two other program files without the need for individual execution. This allows simplicity and every ease of use through providing the user with the options within the terminal rather individually running CheckEmailApplication and SendEmailApplication. The screenshot is provided below. Showing evidence to this:

```
[sc15hv@comp-pc3049 javax.mail]$ javac EmailApplication.java && java EmailApplic
ation
        Login
_____________________

Username: harshit.verma777@gmail.com
Password:
Email options
Check e-mail:   [0]
Send e-mail:    [1]
Select the choice
```

This allows the user as shown above, to easily edit the fields required and send the email for checking the email through option 0 and sending the email through option 1.

Reference:

Google Support Link which provides assistance to know about the port number and gmail server details which would allow me to use them and implement successfully.
https://support.google.com/mail/answer/7104828?hl=en&visit_id=1-636245359203563670-3246792403&rd=1

Provides information which helps with comprehension of understanding encountered problems and in this case the authentication failure problem.
http://stackoverflow.com/questions/24406419/getting-javax-mail-authenticationfailedexception-in-tomcat7

This had provided me with the knowledge and information to help begin the coursework.
https://www.tutorialspoint.com/javamail_api/index.htm

The lecture slides allowed me to understand in detail information and comprehend it as to what I will need to carry out this coursework.
http://www.comp.leeds.ac.uk/nde/modules/1721/

Understanding Mail servers and how they are used:

http://whatismyipaddress.com/mail-server

This had provided information and insight into obtaining help for the applications which would need to be created for this task.
https://www.tutorialspoint.com/java/java_sending_email.htm