*Implementation –*

*The task was completed using Java Programming Language. To implement the reading of the image, the Java Tesseract API wrapper - tess4j was used. To complete various operations on the data various built-in libraries were used.*

*Code –*

*package ahmedFateen;  
  
import java.io.File;  
import java.io.\*;  
import net.sourceforge.tess4j.\*;  
import java.text.ParseException;  
import java.text.SimpleDateFormat;  
import java.util.regex.Pattern;  
import java.util.regex.Matcher;  
import java.text.ParseException;  
import java.text.ParsePosition;  
import java.text.SimpleDateFormat;  
import java.util.Date;  
import java.time.LocalDate;  
import java.time.format.DateTimeFormatter;  
import java.util.Locale;  
import java.io.File;  
  
  
public class TasksByRihal {  
   
 public static void main(String args[]) throws IOException{  
   
 File imageFile = new File("C:\\Users\\smart\\OneDrive\\Desktop\\ahmedFateen\\images\\RihalTest.png");  
   
 ITesseract instance = new Tesseract();  
 instance.setDatapath("C:\\Users\\smart\\OneDrive\\Desktop\\ahmedFateen\\tessdata");  
   
 try {  
   
 String textfile = instance.doOCR(imageFile);  
 System.out.println(textfile);  
   
 {  
 String text = "From: Al Amri, Salim <salim.amri@gmail.com>\nSent: 25 August 2021 17:20\nTo: Al Harthi, Mohammed <mohd4.king@rihal.om>\nCc: Al hajri, Malik <hajri990@ocaa.co.om>; Omar, Naif <nnnn49@apple.com>\nSubject: Conference Rooms Booking Details\nDear Mohammed,\nAs per our last discussion these are the available conference rooms available for booking along with their rates for full day:\nRoom: Luban, available on 26/09/2021. Rate: $4540\nRoom: Mazoon, available on 04/12/2021 and 13/02/2022. Rate: $3000\nRoom: Dhofar. Available on 11/11/2021. Rate: $2500 Room: Nizwa. Available on 13/12/2022. Rate: $1200\nPlease let me know which ones you are interested so we go through more details.\nBest regards,\nSalim Al Amri";  
   
 String[] dates = getDate(text);  
   
 //Date Extraction  
 System.out.println("---DATES---");  
 ConvertDate(dates[0]);  
 ConvertDate(dates[1]);  
 ConvertDate(dates[2]);  
 ConvertDate(dates[3]);  
 ConvertDate(dates[4]);   
   
 //Rooms Names   
 System.out.println("\n---ROOMS---");  
 int FirstRoom = text.indexOf("Room: ");  
 System.out.println(text.substring(FirstRoom+6,385));  
   
 int SecondRoom = text.indexOf("Room: ", FirstRoom+6);  
 System.out.println(text.substring(SecondRoom+6,436));  
   
 int ThirdRoom = text.indexOf("Room: ", SecondRoom+6);  
 System.out.println(text.substring(ThirdRoom+6,502));  
   
 int FourthRoom = text.indexOf("Room: ", ThirdRoom+6);  
 System.out.println(text.substring(FourthRoom+6,552));  
   
 //Rooms Rates  
 System.out.println("\n---RATES---");  
 int FirstRate = text.indexOf("Rate: ");   
 System.out.println(text.substring(FirstRate+6,423));  
   
 int SecondRate = text.indexOf("Rate: ",FirstRate+6);   
 System.out.print(text.substring(SecondRate+6,490));  
   
 int ThirdRate = text.indexOf("Rate: ",SecondRate+6);   
 System.out.println(text.substring(ThirdRate+6,541));  
   
 int FourthRate = text.indexOf("Rate: ",ThirdRate+6);   
 System.out.print(text.substring(FourthRate+6,591));  
   
 //Extracting Names  
 System.out.println("\n---NAMES---");  
   
 int FirstName = text.indexOf("Al ");  
 System.out.println(FirstName);   
 System.out.print(text.substring(FirstName+9,20)+" ");  
 System.out.println(text.substring(FirstName, 13));  
   
 int SecondName = text.indexOf("Al ",FirstName+9);  
 System.out.println(SecondName);   
 System.out.print(text.substring(SecondName+11,94)+" ");  
 System.out.println(text.substring(SecondName, 84));  
   
 int ThirdName = text.indexOf("Al ",SecondName+9);  
 System.out.println(ThirdName);   
 System.out.print(text.substring(ThirdName+10,137)+" ");  
 System.out.println(text.substring(ThirdName, 129));  
   
 //Extracting Emails  
 System.out.println("\n---EMAILS---");  
 Matcher m = Pattern.compile("[a-zA-Z0-9\_.+-]+@[a-zA-Z0-9-]+\\.[a-zA-Z0-9-.]+").matcher(text);  
 while (m.find())   
 {  
 System.out.println(m.group());  
 }  
   
 }  
   
 }catch(TesseractException e) {  
 System.err.println(e.getMessage());  
 }  
 }  
 public static void ConvertDate(String txtdates)  
 {  
 SimpleDateFormat formatter = new SimpleDateFormat("dd/MM/yyyy", Locale.ENGLISH);  
   
 try{  
   
 Date localDate = formatter.parse(txtdates);  
 formatter.applyPattern("yyyy/MM/dd");  
 txtdates = formatter.format(localDate);  
 System.out.println(txtdates);   
 } catch(ParseException e)   
 {  
 e.printStackTrace();  
 }   
 }  
   
 private static String[] getDate(String texts)   
 {  
 int count=0;  
 String[] allMatches = new String[5];  
 Matcher m = Pattern.compile("(0[1-9]|[12][0-9]|3[01])[- /.](0[1-9]|1[012])[- /.](19|20)\\d\\d").matcher(texts);  
 while (m.find())   
 {   
   
 allMatches[count] = m.group();  
 count++;  
   
 }   
 return allMatches;  
 }  
  
}*