PRACTICAL 6

Aim: Write a program to implement MD5 algorithm to compute Message Digest.

Send.java

Code:

```java
import java.io.*;
import java.security.*;
import java.util.Scanner;
public class Send {
    public static void main(String[] args) {
        System.out.println("Enter the message to be send: ");
        try {
            Scanner sc = new Scanner(System.in);
            String input = sc.nextLine();
            byte buffer[] = new byte[input.length()];
            FileOutputStream fos = new FileOutputStream("msg.txt");
            ObjectOutputStream oos = new ObjectOutputStream(fos);
            MessageDigest md = MessageDigest.getInstance("MD5");
            buffer = input.getBytes();
            md.update(buffer);
            oos.writeObject(input);
            oos.writeObject(md.digest());
            System.out.println("Message send successfully!");
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

Output:

```
PS C:\Users\ADMIN\Downloads\INS Practical-20230814T033705Z-001\INS Practical\P6> javac Send.java
PS C:\Users\ADMIN\Downloads\INS Practical-20230814T033705Z-001\INS Practical\P6> java Send
Enter the message to be send:
Hey!
Message send successfully!
```

Receive.java

Code:

```java
import java.io.*;
import java.security.*;
public class Receive {
    public static void main(String[] args) {
        byte dig[] = new byte[1024];
        try {
            FileInputStream fis = new FileInputStream("msg.txt");
            ObjectInputStream ois = new ObjectInputStream(fis);
            Object obj = ois.readObject();
            String data = (String)obj;
            System.out.println("Recieved Data: "+data);
            obj = ois.readObject();
            dig = (byte[])obj;
            MessageDigest md = MessageDigest.getInstance("MD5");
            md.update(data.getBytes());
            if(MessageDigest.isEqual(md.digest(), dig))
            System.out.println(data+" Retrieved Successfully!");
            ois.close();
        } catch (Exception e) {
            System.out.println("Message is corrupted");
        }
    }
}
```

Output:

```
PS C:\Users\ADMIN\Downloads\INS Practical-20230814T033705Z-001\INS Practical\P6> javac Receive.java
PS C:\Users\ADMIN\Downloads\INS Practical-20230814T033705Z-001\INS Practical\P6> java Receive
Recieved Data: Hey!
Hey! Retrieved Successfully!
```