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Assignment: 05

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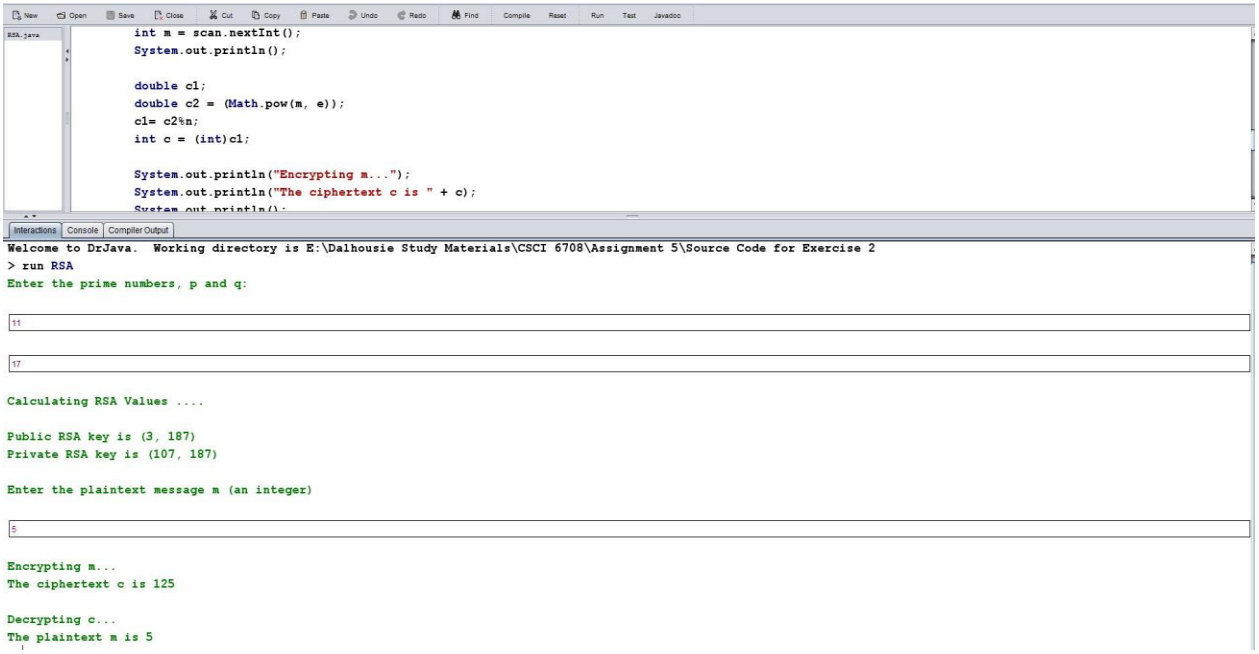
**Test Case 1:**

| Inputs | Outputs |
|---|---|
| • Prime Numbers, (p, q) = (11, 17)<br>• Plaintext, m = 5 | • Public Key (3, 187)<br>• Private Key (107, 187)<br>• Ciphertext, c = 125<br>• Plaintext, m = 5 |

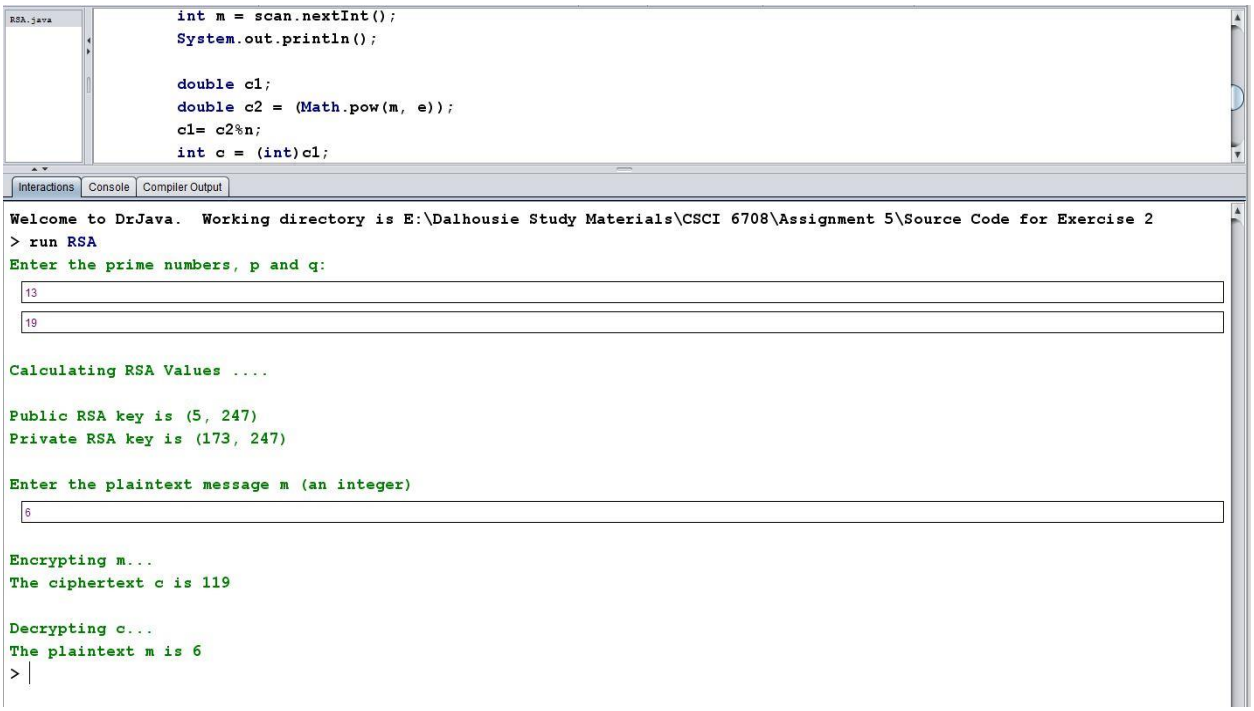


```
        int m = scan.nextInt();
        System.out.println();

        double c1;
        double c2 = (Math.pow(m, e));
        c1= c2%n;
        int c = (int)c1;

        System.out.println("Encrypting m...");
        System.out.println("The ciphertext c is " + c);
```

```
Welcome to DrJava.  Working directory is E:\Dalhousie Study Materials\CSCI 6708\Assignment 5\Source Code for Exercise 2
> run RSA
Enter the prime numbers, p and q:
11
17
Calculating RSA Values ....

Public RSA key is (3, 187)
Private RSA key is (107, 187)

Enter the plaintext message m (an integer)
5
Encrypting m...
The ciphertext c is 125

Decrypting c...
The plaintext m is 5
```

**Test Case 2:**

| Inputs | Outputs |
|---|---|
| • Prime Numbers, (p, q) = (13, 19)<br>• Plaintext, m = 6 | • Public Key (5, 247)<br>• Private Key (173, 247)<br>• Ciphertext, c = 119<br>• Plaintext, m = 6 |



**Test Case 3:**

| Inputs | Outputs |
|---|---|
| • Prime Numbers, (p, q) = (5, 11)<br>• Plaintext, m = 4 | • Public Key (3, 55)<br>• Private Key (27, 55)<br>• Ciphertext, c = 9<br>• Plaintext, m = 4 |