Assignment 5

Test cases:

i. Two complex numbers

Enter the real and imaginary components of the first complex number.

(a1) + i(b1)
a1 = 5
b1 = 2

Enter the real and imaginary components of the second complex number.

(a2) + i(b2)
a2 = 9
b2 = 12

The product of the two numbers is: 21.0000 + i78.0000

The quotient of the two numbers is: 0.3067 - i0.1867

ii. Two real numbers

Enter the real and imaginary components of the first complex number.

(a1) + i(b1)
a1 = 0.44
b1 = 0.7

Enter the real and imaginary components of the second complex number.

(a2) + i(b2)
a2 = 3.9
b2 = 7.192

The product of the two numbers is: -3.3184 + i5.8945

The quotient of the two numbers is: 0.1009 - i0.0065

iii. Two imaginary numbers

Enter the real and imaginary components of the first complex number.

(a1) + i(b1)
a1 = 0
b1 = -1

```
Enter the real and imaginary components of the second complex
number.

  (a2) + i(b2)
   a2 = 0
   b2 = -5

The product of the two numbers is:  -5.0000 + i-0.0000

The quotient of the two numbers is: 0.2000 + i0.0000
```

iv. Real number and an imaginary number

```
Enter the real and imaginary components of the first complex
number.

  (a1) + i(b1)
   a1 = 0.3571
   b1 = 1

Enter the real and imaginary components of the second complex
number.

  (a2) + i(b2)
   a2 = 0
   b2 = -3

The product of the two numbers is:  3.0000 - i1.0713

The quotient of the two numbers is: -0.3333 + i0.1190
```

v. Imaginary number and a real number

```
Enter the real and imaginary components of the first complex
number.

  (a1) + i(b1)
   a1 = 0
   b1 = 3

Enter the real and imaginary components of the second complex
number.

  (a2) + i(b2)
   a2 = 9.9
   b2 = 1

The product of the two numbers is:  -3.0000 + i29.7000

The quotient of the two numbers is: 0.0303 + i0.3000
```

vi. Zero and a complex number

```
Enter the real and imaginary components of the first complex
number.

  (a1) + i(b1)
   a1 = 0
   b1 = 0

Enter the real and imaginary components of the second complex
number.

  (a2) + i(b2)
   a2 = 4
   b2 = 4

The product of the two numbers is:  0.0000 + i0.0000

The quotient of the two numbers is: 0.0000 + i0.0000
```

vii. Complex number and zero

```
Enter the real and imaginary components of the first complex
number.

  (a1) + i(b1)
   a1 = 10
   b1 = 0.01

Enter the real and imaginary components of the second complex
number.

  (a2) + i(b2)
   a2 = 0
   b2 = 0

The product of the two numbers is:  0.0000 + i0.0000

The quotient of the two numbers is: NaN - iNaN
```