

# Hexaware Coding Challenge Plan Day - 5

## Problem - 1 String

The screenshot shows the HackerRank interface for the 'String' challenge. The left sidebar contains navigation links: Submissions, Leaderboard, Discussions, and Editorial. The main content area is divided into two panels. The left panel, titled 'Problem', contains the following text:

**Output Format**  
Print the three most common characters along with their occurrence count each on a separate line.  
Sort output in descending order of occurrence count.  
If the occurrence count is the same, sort the characters in alphabetical order.

**Sample Input 0**  
`aabbccde`

**Sample Output 0**  
`b 3  
a 2  
c 2`

**Explanation 0**  
Here, b occurs 3 times. It is printed first.  
Both a and c occur 2 times. So, a is printed in the second line and c in the third line because a comes before c in the alphabet.  
**Note:** The string *S* has at least 3 distinct characters.

The right panel shows a 'Congratulations' message: 'You have earned 30.00 points! You are now 85 points away from the gold level for your python badge.' It includes a progress bar at 53% and a 'Next Challenge' button. Below this, a list of test cases (0-5) is shown, all marked as 'Success'. The 'Compiler Message' for Test case 0 is 'Success'. The 'Input (stdin)' for Test case 0 is `aabbccde`. The 'Expected Output' for Test case 0 is `b 3  
a 2  
c 2`.

## Problem - 2 Incorrect Regex

The screenshot shows the HackerRank interface for the 'Incorrect Regex' challenge. The left sidebar contains navigation links: Problem, Submissions, Leaderboard, Discussions, and Editorial. The main content area is divided into two panels. The left panel, titled 'Problem', contains the following text:

You are given a string *S*.  
Your task is to find out whether *S* is a valid [regex](#) or not.

**Input Format**  
The first line contains integer *T*, the number of test cases.  
The next *T* lines contains the string *S*.

**Constraints**  
 $0 < T < 100$

**Output Format**  
Print "True" or "False" for each test case without quotes.

**Sample Input**  
`2  
.a\+  
.++`

**Sample Output**  
`True  
False`

**Explanation**  
The first line contains integer *T*, the number of test cases. The next *T* lines contains the string *S*.

The right panel shows a 'Congratulations' message: 'You have earned 20.00 points! You are now 65 points away from the gold level for your python badge.' It includes a progress bar at 64% and a 'Next Challenge' button. Below this, a list of test cases (0-2) is shown, all marked as 'Success'. The 'Compiler Message' for Test case 0 is 'Success'. The 'Input (stdin)' for Test case 0 is `2  
.a\+  
.++`. The 'Expected Output' for Test case 0 is `True  
False`.

## Problem - 3 Exception

**HackerRank** Prepare > Python > Errors and Exceptions > Exceptions

Exit Full Screen View

**Problem**

```
try:
    print 1/0
except ZeroDivisionError as e:
    print "Error Code:",e
```

**Output**

Error Code: integer division or modulo by zero

**Task**

You are given two values  $a$  and  $b$ .  
Perform integer division and print  $a/b$ .

**Input Format**

The first line contains  $T$ , the number of test cases.  
The next  $T$  lines each contain the space separated values of  $a$  and  $b$ .

**Constraints**

- $0 < T < 10$

**Output Format**

Print the value of  $a/b$ .  
In the case of ZeroDivisionError or ValueError, print the error code.


**Sample Input**

```
3
1 0
2 5
```

**Submissions**

**Leaderboard**

**Discussions**

 You have earned 10.00 points!  
You are now 55 points away from the gold level for your python badge.

69% 345/400

**Congratulations**

You solved this challenge. Would you like to challenge your friends? [f](#) [t](#) [in](#) [Next Challenge](#)

**Test case 0**

**Test case 1**

**Test case 2**

Compiler Message

Success

Input (stdin)

```
1 3
2 1 0
3 2 5
4 3 1
```

Expected Output

```
1 Error Code: integer division or modulo by zero
2 Error Code: invalid literal for int() with base 10: '10'
```

## Problem - 4 Classes: Dealing with Complex Numbers

**HackerRank** Prepare > Python > Classes > Classes: Dealing with Complex Numbers

Exit Full Screen View

**Problem**

For this challenge, you are given two complex numbers, and you have to print the result of their addition, subtraction, multiplication, division and modulus operations.

The real and imaginary precision part should be correct up to two decimal places.

**Input Format**

One line of input: The real and imaginary part of a number separated by a space.

**Output Format**

For two complex numbers  $C$  and  $D$ , the output should be in the following sequence on separate lines:

- $C + D$
- $C - D$
- $C * D$
- $C / D$
- $mod(C)$
- $mod(D)$


For complex numbers with non-zero real( $A$ ) and complex part( $B$ ), the output should be in the following format:  
 $A + Bi$   
Replace the plus symbol (+) with a minus symbol (-) when  $B < 0$ .

For complex numbers with a zero complex part i.e. real numbers, the output should be:  
 $A + 0.00i$

**Submissions**

**Leaderboard**

**Discussions**

 You have earned 20.00 points!  
You are now 35 points away from the gold level for your python badge.

81% 365/400

**Congratulations**

You solved this challenge. Would you like to challenge your friends? [f](#) [t](#) [in](#) [Next Challenge](#)

**Test case 0**

**Test case 1**

**Test case 2**

**Test case 3**

**Test case 4**

**Test case 5**

Compiler Message

Success

Input (stdin)

```
1 2 1
2 5 6
```

Expected Output

```
1 7.00+7.00i
2 -3.00-5.00i
```

## Problem - 5 Class 2 - Find the Torsional Angle

### HackerRank

PreparePython > Classes > Class 2 - Find the Torsional Angle

Exit Full Screen View

Problem

You are given four points  $A, B, C$  and  $D$  in a 3-dimensional Cartesian coordinate system. You are required to print the angle between the plane made by the points  $A, B, C$  and  $B, C, D$  in degrees(not radians). Let the angle be  $PHI$ .

$$\cos(PHI) = \frac{(X \cdot Y)}{|X||Y|}$$
 where  $X = AB \times BC$  and  $Y = BC \times CD$ .

Here,  $X \cdot Y$  means the dot product of  $X$  and  $Y$ , and  $AB \times BC$  means the cross product of vectors  $AB$  and  $BC$ . Also,  $AB = B - A$ .

**Input Format**

One line of input containing the space separated floating number values of the  $X, Y$  and  $Z$  coordinates of a point.

**Output Format**

Output the angle correct up to two decimal places.

**Sample Input**

```
0 4 5
1 7 6
0 5 9
1 7 2
```


**Sample Output**

```
8.19
```

Submissions

Leaderboard

Discussions

 You have earned 20.00 points!




You are now 15 points away from the gold level for your python badge.

92%

385/400

Congratulations

You solved this challenge. Would you like to challenge your friends?



Next Challenge

Test case 0

Test case 1

Test case 2

Test case 3

Test case 4

Test case 5

Compiler Message

Success

Input (stdin)

Download

1 0 4 5

2 1 7 6

3 0 5 9

4 1 7 2