

## Applied Scripting Languages

### Exercise 1: Validate Username

A computer specifies that, for a username to be valid, it must comply with all of the following rules:

The username must be between 4 and 8 characters long

The username must start with a lowercase letter

The username can only consist of alphanumeric characters (letters and numbers).

Design, write and test a program which

- inputs a username
- checks if the username is valid, in which case a suitable message should be displayed;
- otherwise, the program should display a message indicating why it is not valid (which rule(s) was not complied with)

*Do not use loops, lists or any other features not yet covered in this course.*

Hints:

1. To determine the length of a string (i.e. the number of characters) using the `len()` function
2. The first character is given by the index 0
3. To check for alphanumeric characters, use the string method `isalnum()`

*Sample Output 1*

```
Enter your username: jbloggs
Valid username
```

*Sample Output 2*

```
Enter your username: joe
Username is invalid:
    Too short - must have between 4 and 8 alphanumeric characters
```

*Sample Output 3*

```
Enter your username: josephbloggs123
Username is invalid:
    Too long - must have between 4 and 8 alphanumeric characters
```

*Sample Output 4*

```
Enter your username: Jbloggs
Username is invalid:
    Does not start with a lowercase letter
```

*Sample Output 5*

```
Enter your username: j_bloggs
Username is invalid:
    Contains non-alphanumeric characters
```

*Sample Output 6*

```
Enter your username: Joseph_Bloggs
Username is invalid:
    Too long - must have between 4 and 8 alphanumeric characters
    Does not start with a lowercase letter
    Contains non-alphanumeric characters
```

## Exercise 2: ChoHan Game

ChoHan is a game played with 2 dice. A player guesses whether the total of 2 dice is even (Cho) or odd (Han).

Design, write and test a program which implements the game. The program should:

- Input the player's guess
- Simulate rolling two dice, calculate the total and display the dice rolls and the total
- Determine and display a message indicating whether or not the player guessed correctly

Hints:

1. To simulate rolling a die, you need to
  - Import the method `randint` from the module `random`
  - Call `randint(1,6)` and store the result
2. To check if a number is even, use the modulo operator, e.g. `total % 2 == 0` means `total` is even, `total % 2 == 1` means `total` is odd.

*Do not use loops, lists or any other features not yet covered in this course.*

*Sample Output 1*

```
Enter your guess (even or odd): even
Dice rolls: 2 and 4 Total is: 6
You guessed right!
```

*Sample Output 2*

```
Enter your guess (even or odd): odd
Dice rolls: 2 and 5 Total is: 7
You guessed right!
```

*Sample Output 3*

```
Enter your guess (even or odd): even
Dice rolls: 3 and 6 Total is: 9
You guessed wrong
```

*Sample Output 4*

```
Enter your guess (even or odd): odd
Dice rolls: 4 and 6 Total is: 10
You guessed wrong
```