The Virtual Learning Environment for Computer Programming

Basic (1) P87782\_en

You have to program several functions. In each case, few lines of code are enough.

- 1. Write a function *welcome*(*name*) that prints a personalized greeting message. Follow the pattern of the example below.
- 2. Write a function  $max\_min(x, y)$  that returns the maximum and the minimum of two integer numbers x and y.
- 3. Write a function  $integer\_division(a, b)$  that returns the quotient and remainder of the integer division of a by b. Numbers a and b are non negative integers and  $b \neq 0$
- 4. Write a function  $digit\_count(n)$  that given a natural number n returns its number of digits.
- 5. Write a function  $leading\_hand(h, m)$  that given integers  $0 \le h < 24$  and  $0 \le m < 60$  representing a digital hour prints the leading hand of an analogical watch pointing out that hour. Depending on value parameters the function prints either "hour hand", "minute hand" or "draw". Leading hand is the one closest to 12 following the clockwise rotation. We assume hour hand has only 12 possible configurations and minute hand has 60.
- 6. Write a function  $update\_arrival(h, m, d)$  that given integers  $0 \le h < 24$  and  $0 \le m < 60$  representing a flight time arrival and  $d \ge 0$  representing a delay in minutes returns the updated time arrival.

## Scoring

Last two functions counts 20 points each one. Previous ones counts 15 points.

## Sample session

```
>>> welcome("King Kong")
Hello King Kong, you are welcome!
>>> max_min(-3,5)
(5, -3)
>>> integer_division(14,3)
(4, 2)
>>> digit_count(6543)
4
>>> leading_hand(22,51)
minute hand
>>> update_arrival(23, 57, 5 + 24*60)
(0, 2)
```

## **Problem information**

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