1)

Even Numbers

a) Write a function *is_even* that accepts a number, and returns *True* if the number is even and *False* otherwise.
(Note: return type must be *bool*, NOT *string*)

Ex:

```
>>> is_even(16)
True
>>> is_even(9)
False
>>> type(is_even(222))
<class 'bool'>
```

b) Write a function *all_even* that accepts a number *n* as argument, and uses the previous function *is_even* to print all the even numbers from 0 to *n*.

Ex:

```
>>> all_even(12)
0
2
4
6
8
10
12

>>> all_even(9)
0
2
4
6
8
```

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2)

Letter Grade

Write a function *letter_grade* that accepts a grade in numbers (100%), and prints out its corresponding letter grade (A, A-, B+, …, F).

Ex:

```
>>> letter_grade(49)
F

>>> letter_grade(75)
B-

>>> letter_grade(101)
Invalid grade
```

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3)

Leap Year

Write a function called *leap_year* that accepts a year, and determines whether it is a leap year or not. (Leap year explained here.)

Ex:

```
>>> leap_year(2016)
2016 is a leap year.

>>> leap_year(1999)
1999 is NOT a leap year.

leap_year(1800)
1800 is NOT a leap year.
```

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4)

Sum of Digits

a) Write a function *sum_of_digits* that accepts a number, and prints the sum of the digits that compose this number. (Hint: use *for* loop)

Ex:

```
>>> sum_of_digits(123)
6

>>> sum_of_digits(22222)
10
```

b) Use recursion to solve the previous problem.

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5) Exercise 5.1 (from Textbook)

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6) Exercise 5.2

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7) Exercise 5.3

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8) Exercise 5.4

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9) Exercise 5.5

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10) Exercise 5.6.
