Conditionals

Practice Problems

Write the function myAbs(n) that, given an integer n, returns the absolute value of n

- Examples:
 - myAbs(5) returns 5
 - myAbs(-4) returns 4
 - myAbs(0) returns 0

• Write the function sign(n) that implements the "signum" function. It should return -1, 0, or 1, depending on the sign of n.

$${
m sgn}\,x:= egin{cases} -1 & {
m if}\,x < 0, \ 0 & {
m if}\,x = 0, \ 1 & {
m if}\,x > 0. \end{cases}$$

- Implement the function middle(a, b, c) that takes three different numbers as input, and returns the middle among them.
- Examples: middle(7, 5, 6) returns 6
- middle(6, 7, 5) returns 6
- middle(100, 20, 45) returns 45

- Implement the function sumOfTwoDigits(n) that computes the sum of the digits of a two-digit positive number.
- If the number has more than two digits or less than two digits or is negative, return -1
- Example: sumOfTwoDigits(42) == 6
- Example: sumOfTwoDigits(9999) == -1
- Example: sumOfTwoDigits(-42) == -1

- Tri-du is a card game inspired in the popular game of Truco. The game uses a normal deck of 52 cards, with 13 cards of each suit, but suits are ignored. What is used is the value of the cards, considered as integers between 1 to 13.
- In the game, each player gets three cards. The rules are simple:
- 1. A Three of a Kind (three cards of the same value) wins over a Pair (two cards of the same value).
- 2. A Three of a Kind formed by cards of a larger value wins over a Three of a Kind formed by cards of a smaller value.
- 3. A Pair formed by cards of a larger value wins over a Pair formed by cards of a smaller value.
- Note that the game may not have a winner in many situations; in those cases, the cards are returned to the deck, which is re-shuffled and a new game starts.
- A player received already two of the three cards and knows their values. Your task is to write a program to determine the value of the third card that maximizes the probability of that player winning the game.
- Implement the function bestCard(c1, c2) that takes the values c1 and c2 of the two cards at hand, and returns the value of that card that will result in the best hand.