Before your interview, take some time to review Python (or Java) syntax. You should be familiar with Loops, Lists (ArrayLists), and Dictionaries (HashMaps). The practice problems below are written in Python but Java is also an option. The problems will be the same.  
  
Paste this into coderpad to get used to the UI. To test your solution hit the Run button, if the assert fails the line number will be indicated on the right panel, if no assert fails you will get no print out and have solved the problem.

"""  
Example Python Syntax (will also be provided during the interview)  
  
Loops  
for x in l: "Iterate on x for each value in list"  
for i in range(0,5): "Iterate on i from value 0 to 4"  
for k, v in d.items(): "Iterate on each key, value pair in dict"  
  
Lists (Array)  
l = [] "Define an empty list"  
l[i] "Return value at index i in list"  
len(l) "Return length of list"  
l.append(x) "Add value x to the end of list"  
l.sort() "Sort values in list - in place sort, returns None"  
sorted(l) "Return sorted copy of list"  
x in l: "Evaluate True if x is contained in the list"  
  
Dictionary (HashMap)  
d = {} "Define an empty Dictionary"  
d[x] "Return value for key x"  
d[x] = 1 "Set value for key x to 1"  
d.keys() "Return list of keys"  
d.values() "Return list of values"  
  
Tuple  
tup = ()  
tup = (1,2) + tup  
  
Other functions  
reversed(n) "reverse a list"  
random.random() "random number between 0 and 1"  
random.randrange(start, stop) "Return a randomly selected element from range(start, stop)"  
isinstance(x, list) "returns True if x is instance of list"  
split() "returns a list of all the words in the string"  
ceil() "returns the smallest integer value greater than or equal to x"  
"""  
  
  
"""  
Write a function that returns the elements on odd positions (0 based) in a list  
"""  
def solution(input):  
 #code goes here

return output  
  
assert solution([0,1,2,3,4,5]) == [1,3,5]  
assert solution([1,-1,2,-2]) == [-1,-2]  
  
  
"""  
Write a function that returns the cumulative sum of elements in a list  
"""  
def solution(input):  
 # Code goes here   
 return output  
  
assert solution([1,1,1]) == [1,2,3]  
assert solution([1,-1,3]) == [1,0,3]  
  
"""  
Write a function that takes a number and returns a list of its digits  
"""  
def solution(input):  
 # Code goes here  
 return output  
  
assert solution(123) == [1,2,3]  
assert solution(400) == [4,0,0]  
  
"""  
From: http://codingbat.com/prob/p126968  
Return the "centered" average of an array of ints, which we'll say is   
the mean average of the values, except ignoring the largest and   
smallest values in the array. If there are multiple copies of the   
smallest value, ignore just one copy, and likewise for the largest   
value. Use int division to produce the final average. You may assume   
that the array is length 3 or more.  
"""  
  
def solution(input):

# Code goes here  
 return output   
  
assert solution([1, 2, 3, 4, 100]) == 3  
assert solution([1, 1, 5, 5, 10, 8, 7]) == 5  
assert solution([-10, -4, -2, -4, -2, 0]) == -3

## DIMA VLASENKO – PHONE INTERVIEW AT FACEBOOK

Python:

- count the number of times a character appears in a string     
        find s in missisipi  
- replace None with previous list item  
        [None] ==> [None]  
        [] ==> []  
        [None,1,2] ==> [None,1,2]  
        [2,None,3] ==> [2,2,3]  
        [2,3,None,None,3] ==> [2,3,3,3]  
- Complete a function that returns a list containing all the mismatched words (case sensitive) between two given input strings  
        string 1 : "Firstly this is the first string"  
        string 2 : "Next is the second string"  
        output : ['Firstly', 'this', 'first', 'Next', 'second']  
- Given a ´dictionary, print the key for nth highest value present in the dict. If there are more than 1 record present for nth highest value then sort the key and print the first one.