Day 1:

Strings Manipulation

1) Reverse Integer

```
# Given an integer, return the integer with reversed digits.
# Note: The integer could be either positive or negative.
def rev_integer(num):
        num=abs(num)
        rev_num=0
        while num:
           dig=num%10
           rev_num=(rev_num*10)+dig
           num=num//10
        return rev_num

print(rev_integer(123))
print(rev_integer(-345))
```

2) Average word-length

```
# For a given sentence, return the average word length.
# Note: Remember to remove punctuation first.

sentence1 = "Hi all, my name is Tom...I am originally from Australia."
sentence2 = "I need to work very hard to learn more about algorithms in
Python!"


def solution(S):
   for i in S:
      if i in [',','.','?',':','!']:
         S=S.replace(i,' ')
   words=S.split()
   return round(sum(len(word) for word in words)/len(words),2)

print(solution(sentence1))
print(solution(sentence2))
```

3) Valid palindrome:

```
num=1234321
def is_palindrom(num):
   temp=num
   rev=0
   while (num > 0):
      d=num%10
      rev=rev*10+d
      num=num//10
   if (temp==rev):
      return "palidrome"
   else:
      return "not palidrome"
print(is_palindrom(num))
```

4) Bubble sort:

```
def bubble_sort(lst):
   b=len(lst)-1
   print(lst)
   for i in range(b):
      for j in range(b-i):
         if lst[j]>lst[j+1]:
            lst[j],lst[j+1]=lst[j+1],lst[j]
   return lst
print(bubble_sort([10,5,33,42,0,85,6]))
```

5) Find substring:

```
def substring(S,X):
    import numpy as np
    S=str(S)
    N=len(S)
    lst=[]
    for i in range(0,N):
        if (S[i] != 0):
            j=1
            while ((i+j<=N)):
                num=int(S[i:i+j])
                if (num > X):
                    lst.append(num)
                j+=1
    return np.sum(lst)
s=substring(122223,97)
print(s)

output:163124
```

6) Update the data with salary hike of 10% for all employees.

```
salaries = [{
  "rajesh": { "salary": 1000 },
  "harish": { "salary": 2000 },
  "mayur": { "salary": 3000 }
}]
```

Expected value of the updated variable salaries:

```
[{
  "rajesh": { "salary": 1100 },
  "harish": { "salary": 2200 },
  "mayur": { "salary": 3300 }
}]
```

```
for i in salaries:
        dict=i

for i,j in dict.items():
        for k in j.keys():
          j[k]+=(j[k]*0.1)
          j[k]=int(j[k])
print(dict)
```