**Day 1:  
Strings Manipulation**

1. **Reverse Integer**

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| # 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)) |

# Average word-length

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| # 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:**

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| 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)) |

1. **Bubble sort:**

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1. **Find substring:**

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| 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 |

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| 1. **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) | |