



Autonomous Institute, Affiliated to Visvesvaraya Technological University, Belagavi (Approved by AICTE, New Delhi & Government of Karnataka)
Accredited by NBA | NAAC with 'A' Grade

#### Department of CSE (Artificial Intelligence & Machine Learning)

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#### 

# **SET - 1**

## **Regular Programs**

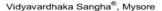
## 1. List Comprehensions

```
if __name__ == '__main__':
    x = int(input())
    y = int(input())
    z = int(input())
    n = int(input())
    output=[]
    for i in range(x+1):
        for j in range(y+1):
        if i+j+k==n:
            continue
        else:
        output.append([i,j,k])
```

## print(output)

## 2. Lists

```
if __name__ == '__main__':
    N = int(input())
    command=[]
    for i in range(N):
        command.append(input().split())
```





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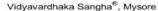
```
result=[]
for i in range(N):
  if command[i][0]=='insert':
    result.insert(int(command[i][1]),int(command[i][2]))
  elif command[i][0]=='print':
    print(result)
  elif command[i][0]=='remove':
    result.remove(int(command[i][1]))
  elif command[i][0]=='append':
    result.append(int(command[i][1]))
  elif command[i][0]=='pop':
    result.pop()
  elif command[i][0]=='sort':
    result.sort()
  elif command[i][0]=='reverse':
```

#### 3. Nested Lists

result.reverse()

if \_\_name\_\_ == '\_\_main\_\_':

```
lis=[]
for _ in range(int(input())):
  name = input()
  score = float(input())
  lis.append([name,score])
lis.sort(key=lambda lis:lis[1])
second lowest=[]
for i in range(len(lis)):
  if lis[i][1]!=lis[0][1]:
    second lowest.append(lis[i][0])
    for j in range(i+1,len(lis)):
       if lis[j][1]==lis[i][1]:
         second_lowest.append(lis[j][0])
       else:
         break
    break
```





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```
else:
continue
```

```
second_lowest.sort()
for i in second_lowest:
    print(i)
```

## 4. sWAP cASE

```
def swap_case(s):
    case_change=[]
    for i in range(len(s)):
        if (s[i].isupper())==True:
            case_change.append(s[i].lower())
        elif (s[i].islower()==True):
            case_change.append(s[i].upper())
        else:
            case_change.append(s[i])
        stri="
        return stri.join(case_change)

if __name__ == '__main__':
        s = input()
        result = swap_case(s)
        print(result)
```

## 5. Find a string

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```
break
return count

if __name__ == '__main__':
    string = input().strip()
    sub_string = input().strip()

count = count_substring(string, sub_string)
    print(count)
```

if i==len(string)-len(sub string):

## 6. Designer Door Mat

```
n,m=input().split()
c='|'
v='.'

n=int(n)
m=int(m)
j=n//2-1
for i in range(n):
    if i==n//2:
        print('WELCOME'.center(m,'-'))
    else:
        if i<n/2:
        print(((v+c+v)*(2*i+1)).center(m,'-'))
    else:
        print(((v+c+v)*(2*j+1)).center(m,'-'))
        if i=j-1</pre>
```

## 7. Alphabet Rangoli

```
n=int(input())
for i in range(n-1,-1,-1):
    for j in range(i):
        print(end="--")
    for j in range(n-1,i,-1):
        print(chr(j+97),end="-")
    for j in range(i,n):
        if j != n-1:
            print(chr(j+97),end="-")
```

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```
else:
      print(chr(j+97),end="")
  for j in range(2*i):
    print(end="-")
  print()
for i in range(1,n):
  for j in range(i):
    print(end="--")
 for j in range(n-1,i,-1):
    print(chr(j+97),end="-")
 for j in range(i,n):
    if j != n-1:
      print(chr(j+97),end="-")
    else:
      print(chr(j+97),end="")
  for j in range(2*i):
    print(end="-")
  print()
```

## 8. String Validators

```
def pr(t):
  if t==1:
    print(True)
  else:
    print(False)
if __name__ == '__main__':
  s = input()
  t=0
 for i in s:
  if i.isalnum()==True:
      t=1
      break
 pr(t)
  t=0
  for i in s:
    if i.isalpha()==True:
    t=1
 break
```





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pr(t)

t=0

for i in s:

if i.isdigit()==True:

t=1

break

pr(t)

t=0

for i in s:

if i.islower()==True:

t=1

break

pr(t)

t=0

for i in s:

if i.isupper()==True:

t=1

break

pr(t)



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## **Additional Programs**

### 1. No Idea!

```
n,m=list(map(int, input().split()))
ns=list(map(int, input().split()))
h=set(map(int, input().split()))
s=set(map(int, input().split()))
res=0
for x in ns:
    if x in h:
        res+=1
    elif x in s:
        res-=1
print(res)
```

## 2. Word Order

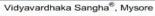
from collections import OrderedDict

```
d=OrderedDict()
n=int(input())
for i in range(n):
    s=input()
    if s in d.keys():
        d[s]+=1
    else:
        d[s]=1
print(len(d.keys()))
print(''.join([str(d[k]) for k in d.keys()]))
```

## 3. Find the runner-up score

```
if __name__ == '__main__':
    n = int(input())
    arr = map(int, input().split())
    arr=sorted(arr,reverse=True)
    for i in range(len(arr)):
```

if arr[i]==arr[0]:





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continue else: print(arr[i])

break

## 4. The Minion Game

```
def minion_game(string):
  k=0
  s=0
  vowels="AaEeIiOoUu"
  for i in range(len(string)):
    if string[i] in vowels:
     k=k+len(string)-i
    else:
  s=s+len(string)-i
  if k>s:
    print("Kevin",k)
  elif k==s:
    print("Draw")
  else:
    print("Stuart",s)
if __name__ == '__main__':
  s = input()
  minion_game(s)
```

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#### 

## 5. Compress the string

```
S=input()
i=1
a=[]
count=1
while i<len(S):
    if S[i]==S[i-1]:
        count+=1
        i+=1
    else:
        a.append((count,int(S[i-1])))
        i+=1
        count=1
a.append((count,int(S[i-1])))
for i in a:
    print(i,end=' ')</pre>
```