```
1  h1,h2,h3..h6
2
```

Literate programming
```
2  * It Is a combination of Coding and Documentation
3  * Order list
4      1. Item 1
5      2. item 2
6          1. sub item
7          2. sub item 2
8      3. Item 3
9  * Un Oder list
10     - item 1
11     - item 2
12         * sub item 1
13         * sub item 2
14     - item 3
15 <img src='ap.jpg'>
16
```

In [ ]:
```python
1  #In c- Lang Hello World program
2      #include<Stdio.h>
3      void main()
4      {
5          printf("hello world ")
6      }
```

In [1]:
```python
1  # In python Programming
2  print("Hello World")
```

Hello World

In [ ]:
```python
1  # For using Commenting sinle line
2  """ This is multi line Commenting"""
3
4
```

Varibels in Python
```python
2  #int a=3
3  a=3 # Singel Var Declaration
4  a,b,c=2,1,4
5
```

In [2]:
```python
1  a=4
2  a
```

Out[2]: 4

In [3]:
```
1  type(a)
```

Out[3]: int

In [6]:
```
1  a=3.5
2  a=9
3  type(a)
```

Out[6]: int

In [7]:
```
1  x,y,z=30,10,20
2  y+x
```

Out[7]: 40

In [9]:
```
1  x/z
```

Out[9]: 1.5

In [18]:
```
1  #Arthametic Oparation
2  a=30
3  b=4
4  print("Addition of a and b is ",a+b)
5  print("Subtration of ",a,"and ",b,"is ",a-b)
```

```
Addition of a and b is   34
Subtration of   30 and   4 is   26
```

In [23]:
```
1  #input()
2  firstValue=int(input("Enter the First value"))
3  SecondValue=int(input("Enter the Second value"))
4  print("addition of  ",firstValue,"and ",
5       SecondValue,"=",firstValue+SecondValue)
6  type(firstValue)
```

```
Enter the First value5
Enter the Second value2
addition of   5 and  2 = 7
```

Out[23]: int

In [ ]:
```
1  
```

In [22]:
```
1  #Type Converversion
2  #str to int
3  int(firstValue)
4  
```

Out[22]: 5

In [25]:
```python
s="cbit"
s1="vbit"
s+s1
```

Out[25]: 'cbitvbit'

```
## Statements In Python
* Two types
    1. Conditional Stms..
        1. if
        2. if else
        3. if elif else
    2. Control Statements(Itarators)
        1. For loop
            1. Continue
            2. Break
        2. while
            1. continue
            2. Break
```

In [30]:
```python
# 1. Conditional Stms..
#          1. if

# In c-lan
# if(condition){
#     ...stemts
# }


# in python Syntax
#     if condition:
#         ..stms

x=4
y=8
if x<y:
    print("Yes ")
```

Yes

In [33]:
```python
#if else.
#syntax
#      if condition:
#          ...stms
#      else:
#          ...stms
if x>y:
    print("Yes ",x)
else:
    print("No",y)


```

No 8

In [35]:
```python
#if elif else
#Syntax

# if cond:
#     ...stms
# elif condition:
#     ....stms
# else:
#     ....stms

#Find the Largest number
a=29
b=10
c=299

if a>b and a>c:
    print(" a is Grater ",a)
elif b>c:
    print("b is Grater ",b)
else:
    print("c is Grater ",c)






```

c is Grater 299

```
In [ ]:    1  Tasks:
           2      1.Check the Given year is Leap year or not
           3      2.wether Condition
           4          below 18--> cool
           5          above 18--> modearate
           6          above 28 -->Hot
           7      3.take the user input if age if below of 18 print the
           8      "chaild",in between 18-35 print
           9      the "Adult",and the age is above 50 print the "old"
          10      4.check the given number is prime or not
```

```
In [45]:   1  year=int(input("enter  a year"))
           2  if (year%400==0 or( year%100!=0 and year%4==0)) :
           3      print("leap year")
           4  else:
           5      print("not a leap year")
```

```
enter  a year1900
not a leap year
```

```
1  2. Control Statements(Itarators)
2        1. For loop
3
4
```

```
In [ ]:    1  # for(inisilization;condtion;incre/dec)
           2  # {
           3  #     ...stmst
           4  # }
```

```
In [ ]:    1  # in python
           2  # for var in range(lb,ub):
           3  #     ...stms
           4
```

```
In [55]:   1  # print the first 10 natural Numbers
           2  for number in range(11):
           3      print(number,end=" ")
```

```
0 1 2 3 4 5 6 7 8 9 10
```

In [63]:
```python
#print 1 - 10 even numbers
c=0
for even in range(1,101):
    if even%2==0:
        c=c+1
        print(even,end=" ")
print("\n Total count is ",c)
```

```
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56
58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
 Total count is   50
```

In [65]:
```python
for i in range(0,101,2):
    print(i,end=" ")
```

```
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54
56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
```

In [72]:
```python
#Avg first 10 numbrs

s=0
c=0
for i in range(1,11):
    s=s+i
    c=c+1
    print(i,end=" ")
print("\nsum is ",s)
print("\navg" ,s//c)

```

```
1 2 3 4 5 6 7 8 9 10
sum is   55

avg 5
```

In [ ]:
```python
#Multiplication table
#          user_input=5
#          output:5 x 1 = 5
#                 5 x 2 = 10
#                 5 x 3 = 15
#                    ..
#                    ..
#                 5 x 10 = 50
# Roll number Generation
lb,ub=1,234
    #162P1A0201
    ....
    ....
    ...
    #162P1A0234


```

In [83]:
```python
# Roll number Generation
# lb,ub=1,234
    #162P1A0201
#     ....
#     ....
#     ...
    #162P1A0234

for rollnumber in range(1,35):
    if (rollnumber==1 or rollnumber==4 or
        rollnumber==12 or rollnumber==32):
        continue
    else:
        print("162P1A0"+str(200+rollnumber))
```

```
162P1A0202
162P1A0203
162P1A0205
162P1A0206
162P1A0207
162P1A0208
162P1A0209
162P1A0210
162P1A0211
162P1A0213
162P1A0214
162P1A0215
162P1A0216
162P1A0217
162P1A0218
162P1A0219
162P1A0220
162P1A0221
162P1A0222
162P1A0223
162P1A0224
162P1A0225
162P1A0226
162P1A0227
162P1A0228
162P1A0229
162P1A0230
162P1A0231
162P1A0233
162P1A0234
```

In [ ]:
```python

```

In [76]:
```python
#Multiplication table
#          user_input=5
#          output:5 x 1 = 5
#                  5 x 2 = 10
#                  5 x 3 = 15
#                    ..
#                    ..
#                  5 x 10 = 50

number=int(input())
for num in range(1,11):
    print(number,"x",num,"=",number*num)


```

```
786
786 x 1 = 786
786 x 2 = 1572
786 x 3 = 2358
786 x 4 = 3144
786 x 5 = 3930
786 x 6 = 4716
786 x 7 = 5502
786 x 8 = 6288
786 x 9 = 7074
786 x 10 = 7860
```

In [90]:
```python
#Check the given number is factor of 1000
    #with in range from 1 to 10
n=int(input())
print("factors of 1000 is ")
for n in range(1,11):
    if 1000%n==0:
        print(n,end=" ")

```

```
5
factors of 1000 is
1 2 4 5 8 10
```

In [105]:
```python
#Prime Numbers
#2,3,5,7,11,13,17,19,23,29,..
n=int(input())
c=0
for i in range(1,n+1):
    if n%i==0:
        for j in range(1,n+1):

```

```
3
Not a prime
Not a prime
```

In [ ]:
```python
# While
#     while cond:
#           ..stms
while True:
    continue
    n=int(input())
    if n==4:
        print("Exit")
        break


```

In [3]:
```python
number=int(input())
c=0
while number>0:
    number=number//10 #%-->remin
    c=c+1
print(c)

```

48484
5

```
## Functions in python
* Inbulit Funtions
* User defiend Function
```

In [ ]:
```python
# User defiend Function
 1. A function with arg[]  and with return Value
 2.A function with arg[]  and with out return Value
 3.A function with out arg[]  and with return Value
 4.A function with out arg[]  and with out return Value
```

In [ ]:
```python
# Syntax of function definaton
def function_name():
    .....stms
function_name()




```

In [9]:
```python
 1    #1. A function with arg[]  and with return Value
 2    def isprime(n):
 3        if n<2:
 4            return False
 5        for i in range(2,n//2+1):
 6            if n%i==0:
 7                return False
 8        return True
 9    n=int(input("Enter the Number "))
10    isprime(n)
```

Enter the Number 23

Out[9]: True

In [10]:
```python
 1    # 1,100
 2    for i in range(1,101):
 3        if isprime(i):
 4            print(i,end=" ")
```

2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97

In [11]:
```python
 1    #2.A function with arg[]  and with out return Value
 2    def add(a,b):
 3        print(a+b)
 4    add(2,3)
```

5

In [ ]:
```
 1    Task:
 2        1. Funtion to generate 2000 to 2020 range  the all yeapp years
 3        2.Find the given number is spcial number or not
 4            input -->6:1,2,3,6
 5                range(1,n)
 6                n=sum of factors
 7                -->28
 8
 9
10
11
12
```