13Th-Nov

Loops

- iterating code
- repeating code
  - For loops
  - Whlie loops

- intialization
- increment/decrement
- condition to stop the loops

For loop

Syntax

In [ ]:
```
for <variable> in range(<value>):
    <write your code here>
```

In [2]:
```
for i in range(3):
    print(i)
```

```
0
1
2
```

In [ ]:
```
print(0)
print(1)
print(2)

# what is common print()
# what is changing 0,1,2 means varing thats why variable

#=> print(i)
```

Case-1: range(stop)

- Start value = 0
- step size = +1
- last = stop-1
  - range(3)
    - start value = 0
    - increment = +1

- last = 3-1 = 2

In [6]:
```
for i in range(5):
    print(i)

# variable name can be anything
# start = 0 step = +1 stop =5-1 = 4
```

```
0
1
2
3
4
```

Note

- In above code we are using i only for looping
- no other meaning of i
- variable name can be anything

In [7]:
```
for i in range(5):
    print("Good Morning")
```

```
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
```

In [11]:
```
print(0)
print(1)
print(2)
print(3)
print(4)
```

```
0
1
2
3
4
```

- the above code we want to write like horizontally

In [14]:
```
print(0, end=' ')
print(1, end=' ')
print(2, end=' ')
print(3, end=' ')
print(4)

# what is common print(,end=' ')
# changing is (i)
```

```
0 1 2 3 4
```

In [15]:
```
for i in range(5):
    print(i, end=' ')
```

```
0 1 2 3 4
```

Case-2: range(start,stop)

- start value = start
- step = 1
- last = stop-1

- range(2,7)
  - start = 2
  - step = 1
  - last = 7-1 = 6

In [18]:
```
for i in range(2,7):
    print(i, end=' ')
```

```
2 3 4 5 6
```

In [19]:
```
for i in range(1,6):
    print(i*i, end=' ')
```

```
1 4 9 16 25
```

In [22]:
```
for i in range(1,6):
    n1= eval(input("Enter a number:-"))
    print(n1*n1)

# here we use n1 inside the loop thats why it will asking 5 time to enter a numb
```

```
144
2025
6241
6561
8836
```

In [24]:
```
import random

for i in range(1,6):
    n1 = random.randint(1,100)
    print(n1*n1)
```

```
4
10000
8281
100
2304
```

16th-Nov

Case-3: range(start,stop,step)

- start value = start

- step = positive means + sign
  - gap = positive step
  - last = stop-1
- step = negative menas - sign
  - gap = negative step
  - stop = last+1

In [ ]:
```
range(2,20,2)
range(start,stop,step)

start= 2
step=2 +
last = 20-1 =19
```

In [25]:
```
for i in range(2,20,2):
    print(i, end=' ')
```

```
2 4 6 8 10 12 14 16 18
```

In [ ]:
```
range(-2,-20,-2)
range(satrt,stop,step)
start = -2
step = -2 - direction
stop = -20+1=-19
```

In [28]:
```
for i in range(2,-20,-2):
    print(i,end=' ')
```

```
2 0 -2 -4 -6 -8 -10 -12 -14 -16 -18
```

In [29]:
```
for i in range(1,6):
    n1 = eval(input("enter a number"))
    if n1%2==0:
        print("Even number")
    else:
        print("Odd Number")
```

```
Odd Number
Even number
Odd Number
Even number
Even number
```

In [31]:
```
for i in range(1,11):
    print(f'7*{i} = {7*i}')
```

```
7*1 = 7
7*2 = 14
7*3 = 21
7*4 = 28
7*5 = 35
7*6 = 42
7*7 = 49
7*8 = 56
7*9 = 63
7*10 = 70
```

In [40]:
```
n1 = eval(input("enter a number"))
for i in range(1,n1+1):
    if n1%i==0:
        print(f"{i} is a divisor for {n1}")
```

```
1 is a divisor for 75
3 is a divisor for 75
5 is a divisor for 75
15 is a divisor for 75
25 is a divisor for 75
75 is a divisor for 75
```

In [48]:
```
n1 =eval(input("enter a number"))
def div(n1):
    for i in range(1,n1+1):
        if n1%i==0:
            print(f"{i} is a divisor for {n1}")

div(10)
```

```
1 is a divisor for 10
2 is a divisor for 10
5 is a divisor for 10
10 is a divisor for 10
```

In [49]:
```
for i in range(5):
    print(i,end=' ')
```

```
0 1 2 3 4
```

In [50]:
```
i
```

Out[50]: 4

Note

- when we write i outside the for loop the output comes only 4
- so never ever try to write i outside the for loop
- i variables always give last value
- do not print i outside the for loop

Sumation Wrapper

- always intialize the summ = 0 before the loop

- inside the loop summ = summ+i
- then print summ value outside the loopm

In [53]:
```
summ = 0
for i in range(1,11):
    summ = summ+i
    print(summ)
```

```
1
3
6
10
15
21
28
36
45
55
```

- in above code I will use print statement inside the for loop
- thats why all values will come

In [56]:
```
summ = 0
for i in range(1,11):
    summ = summ+i
    #summ+=i
print(summ)
```

```
55
```

- In above code we are using print statement outside the for loop
- thats why direct last value will come

Counter Wrapper

- Before the loop count = 0
- inside the loop count = count +1, but this line under sucessful operation
- print the count outside the loop

In [60]:
```
count = 0
num = eval(input("enter a number"))
for i in range(1,num+1):
    if num%i==0:
        count = count+1
        print(f"{i} is a division for {num}")
count
```

```
1 is a divisior for 45
3 is a divisior for 45
5 is a divisior for 45
9 is a divisior for 45
15 is a divisior for 45
45 is a divisior for 45
```

Out[60]: 6

In [64]:
```
count_Even, count_Odd = 0,0
for i in range(5):
    num = eval(input("enter a number:"))
    if num%2==0:
        count_Even=count_Even+1
        print("Even Num")
    else:
        count_Odd=count_Odd+1
        print("Odd Num")
count_Even,count_Odd
```

```
Even Num
Odd Num
Even Num
Even Num
Odd Num
```

Out[64]: (3, 2)

In [68]:
```
count_Even, count_Odd = 0,0
for i in range(5):
    num = random.randint(1,100)
    if num%2==0:
        count_Even=count_Even+1
        print(f"Even {num}")
    else:
        count_Odd=count_Odd+1
        print(f"Odd {num}")
count_Even,count_Odd
```

```
Odd 89
Even 20
Odd 85
Even 68
Even 88
```

Out[68]: (3, 2)

In [73]:
```
summ_Even, summ_Odd = 0,0
count_Even, count_Odd = 0,0
for i in range(5):
    num = random.randint(1,100)
    if num%2==0:
        summ_Even=summ_Even+num
        count_Even=count_Even+1
        print(f"Even {num}")
    else:
        summ_Odd=summ_Odd+num
        count_Odd=count_Odd+1
        print(f"Odd {num}")
print(f'summ of even is:- {summ_Even}, summ of odd is:- {summ_Odd}')
print(count_Even,count_Odd)
```

```
Even 8
Even 54
Even 86
Even 80
Even 44
summ of even is:- 272, summ of odd is:- 0
5 0
```

In [81]:
```
import random
for i in range(1,4):
    n1 = random.randint(1,10)
    print(n1)
    n2 = eval(input("enter a number"))
    if n1 == n2:
        print("Won")
    else:
        print("Lost")
```

```
4
Lost
7
Won
4
Won
```

- in above code prbl no. 1 is
  - if we giving right answer but the loop will ask again

break

In [82]:
```
# Case-1:-
import random
for i in range(1,4):
    n1 = random.randint(1,10)
    print(n1)
    n2 = eval(input("enter a number"))
    if n1 == n2:
        print("Won")
        break
    else:
        print("Lost")
```

```
6
Won
```

In [100…
```
# Case-2:- For every failure
# the number of chances should display

import random
num = eval(input("Enter How many chances you want:-"))
for i in range(1,num+1):
    n1 = random.randint(1,10)
    print(n1)
    n2 = eval(input("enter a number"))
    if n1 == n2:
        print("Wow check in")
        print("Thank you...")
        break
```

```
    else:
        print("You are entering the wrong Pin")
        print(f'The remaining chances is {3-i} to enter a valid pin')
```

```
4
Wow check in
Thank you...
```

In [102…

```
# Case-3:- After all the chances are finished
# print all the chances are lost after 24Hr

import random
num = eval(input("Enter How many chances you want:-"))
for i in range(1,num+1):
    n1 = random.randint(1,10)
    print(n1)
    n2 = eval(input("enter a number"))
    if n1 == n2:
        print("Wow check in")
        print("Thank You...")
        break
    elif num-i == 0:
        print("All chances are over try after 24 hr")
        print("Thank You...")
    else:
        print("You are entering the wrong Pin")
        print(f'The remaining chances is {3-i} to enter a valid pin')
```

```
4
Wow check in
Thank You...
```

in

- range operator excpet a value inside
- in operator access the value directly

In [103…

```
'p' in 'python'

'y' in 'python'

't' in 'python'

'h' in 'python'

'o' in 'python'

'n' in 'python'

for i in 'python':
    print(i)
```

```
p
y
t
h
o
n
```

In [108…
```
'p' == 'P' # False
'p' == 'p' # True
'p'>'P' # True
'p'<'P' # False
```

Out[108… False

ASCII

- American standard code for Information Interchange
  - A = 65 & a = 97
  - B = 66 & b = 98

ord-chr

In [1]:
```
ord('A')
```

Out[1]: 65

In [3]:
```
chr(65)
```

Out[3]: 'A'

In [4]:
```
chr(45)
```

Out[4]: '-'

In [8]:
```
for i in range(65,100):
    print(i, chr(i), end=' ')
```

```
65 A 66 B 67 C 68 D 69 E 70 F 71 G 72 H 73 I 74 J 75 K 76 L 77 M 78 N 79 O 80 P 8
1 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 89 Y 90 Z 91 [ 92 \ 93 ] 94 ^ 95 _ 96 ` 97
a 98 b 99 c
```

In [1]:
```
for i in range(1,100):
    print(i,chr(i),end=' ')
```

```
1  2  3  4  5  6  7  8 9          10
 14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29
30  31  32   33 ! 34 " 35 # 36 $ 37 % 38 & 39 ' 40 ( 41 ) 42 * 43 + 44 , 45 - 4
6 . 47 / 48 0 49 1 50 2 51 3 52 4 53 5 54 6 55 7 56 8 57 9 58 : 59 ; 60 < 61 = 62
> 63 ? 64 @ 65 A 66 B 67 C 68 D 69 E 70 F 71 G 72 H 73 I 74 J 75 K 76 L 77 M 78 N
79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 89 Y 90 Z 91 [ 92 \ 93 ] 94 ^ 9
5 _ 96 ` 97 a 98 b 99 c
```

In [3]:
```
for i in range(2000,3000):
    print(i,chr(i),end=' ')
```

2000 2011 ॥ 2010 ॰ 2009 ০ 2008 ৭ 2007 ৲ 2006 ৳ 2005 ৯ 2004 ৴ 2003 ৬ 2002 ৱ 2001 ৪ 2 ৩ 2022 ৫ 2021 ৬ 2020 ৭ 2019 ৮ 2018 ৯ 2017 ৲ 2016 ৬ 2015 ৪ 2014 ৵ 2013 ৶ 2012 ৷ 2036 ੋ2035 ੊2034 ੉2033 ੈ2032 ੇ2031 ੆2030 ੅2029 ੄2028 ੃2027 ੂ 2026 ੁ 2025 ੀ 2024 ੜ 023 20 ৳ 2047 ৻ 2046 ৺ 2045 ৹ 2044 ৸ 2043 ৷ 2042 ৶ 2041 ৵ 2040 ৴ 2039 ৩ 2038 ‘ 2037 ’ ੫ 2058 ੷ 2057 ੶ 2056 ੵ 2055 ੴ 2054 ੳ 2053 ੲ 2052 ੱ 2051 ੰ 2050 ੯ 2049 ੮ 48 2069 ੍ 2068 ੱ 2067 ੦ 2066 ੷ 2065 ੋ 2064 ੊ 2063 ੈ 2062 ੇ 2061 ੫ 2060 ੍ 2059 2083 ੂ2082 ੁ2081 ੀ2080 ੀ2079 ੀ2078 ੍2077 ੍2076 ੁ2075 ੁ 2074 ੍2073 ੂ2072 ੌ2071 ੌ2070 ੮ 209 · 2096 ৹ 2095 ৹ 2094 ৅2093 ৆2092 ে2091 ৈ2090 ৈ2089 ৈ 2088 ে2087 ে2086 ৅2085 ৅ 2084 2 ৷: 2107 ৻: 2106 ৺: 2105 ৺· 2104 ৺৲ 2103 ৾ 2102 ৽ 2101 ৲: 2100 ৲· 2099 ¨ 2098 : 7 2119 | 2118 ৯ 2117 ৸ 2116 ৳ 2115 ৪ 2114 ৮ 2113 ০ 2112 ৹ 2111 ॰ 2110 ৷ 2109 ⁄ 108 2130 ৸ 2129 ৶ 2128 ৷ 2127 ৺ 2126 ৴ 2125 ৷ 2124 ৲ 2123 ৶ 2122 ৽ 2121 ৷ 2120 ৺ 214 ৹ 2141 ৹ 2140 ৅2139 ৆2138 ে2137 ৾ 2136 ৷৶ 2135 ৷৷ 2134 ৷৷ 2133 ৷০ 2132 ৷৷ 2131 ৷৷ ৹ 2153 ৹ 2152 ৹ 2151 ৹ 2150 ৹ 2149 ৹ 2148 ৹ 2147 ৹ 2146 ৹ 2145 ৹ 2144 ৹ 2143 ৷ 2 2165 ৹ 2164 ৹ 2163 ৹ 2162 ৹ 2161 ৹ 2160 ৹ 2159 ৹ 2158 ৹ 2157 ৹ 2156 ৹ 2155 ৹ 2154 21 ৹ 2176 ৹ 2175 ৹ 2174 ৹ 2173 ৹ 2172 ৹ 2171 ৹ 2170 ৹ 2169 ৹ 2168 ৹ 2167 ৹ 2166 ৹ ৹ 2188 ৹ 2187 ৹ 2186 ৹ 2185 ৹ 2184 ৹ 2183 ৹ 2182 ৹ 2181 ৹ 2180 ৹ 2179 ৹ 2178 ৹ 77 2200 ৹ 2199 ৹ 2198 ৹ 2197 ৹ 2196 ৹ 2195 ৹ 2194 ৹ 2193 ৹ 2192 ৹ 2191 ৹ 2190 ৹ 2189 2 ظ 2211 ج 2210 ب 2209 ب 2208 ৹ 2207 ৹ 2206 ৹ 2205 ৹ 2204 ৹ 2203 ৹ 2202 ৹ 2201 ৹ 2223 ۂ 2222 ہ 2221 ھ 2220 و 2219 ۔ 2218 ي 2217 ئ 2216 ٹ 2215 ك 2214 ق 2213 ف 212 ۓ 2234 ڑ 2233 ت 2232 پ 2231 ب 2230 ৹ 2229 ك 2228 ع 2227 ز 2226 ہ 2225 گ 2224 ص 224 ৹ 2245 ৹ 2244 ৹ 2243 ৹ 2242 ৹ 2241 ৹ 2240 ৹ 2239 ৹ 2238 ں 2237 ق 2236 ف 2235 ৹ 2257 ৹ 2256 ৹ 2255 ৹ 2254 ৹ 2253 ৹ 2252 ৹ 2251 ৹ 2250 ৹ 2249 ৹ 2248 ৹ 2247 ৹ 6 2 2271ۿ 2270۾ 2269۽ 2268ۼ 2267ۻ 2266ۺ 2265ۉ 2264ۈ 2263ۇ 2262ۆ 2261ۅ 2260ۄ ৹ 2259 ৹ 2258 2286 ঁ2285 ং2284 ঃ2283 ঁ2282 ং2281 ঃ2280 ং2279 ং2278 ং2277 ং2276 ং2275 ং 2274 ং2273 ং272 230 ঃ2300 ঃ2299 ং2298 ং2297 ং2296 ং2295 ং2294 ং2293 ং2292 ং2291 ং2290 ঃ2289 ং2288 ং2287 ং 2307 ঁ2306 ঁ2305 ঁ 2304 ং2303 ং2302 ং1 ঃ 2308 ঐ 2309 অ 2310 আ 2311 ই 2312 ঈ 231 3 উ 2314 ঊ 2315 ঋ 2316 ঌ 2317 ঍ 2318 ঐ 2319 এ 2320 ঐ 2321 ऑ 2322 ओ 2323 ओ 23 24 औ 2325 क 2326 ख 2327 ग 2328 घ 2329 ङ 2330 च 2331 छ 2332 ज 2333 झ 2334 ञ 2 335 ट 2336 ठ 2337 ड 2338 ढ 2339 ण 2340 त 2341 थ 2342 द 2343 ध 2344 न 2345 ऩ 234 6 प 2347 फ 2348 ब 2349 भ 2350 म 2351 य 2352 र 2353 ऱ 2354 ल 2355 ळ 2356 ऴ 2357 व 2358 श 2359 ष 2360 स 2361 ह 2362 ঁ 2363 ং 2364 ঁ 2365 ऽ 2366 া 2367 ি 2368 ী 2 369 ু 2370 ূ 2371 ৃ 2372 ৄ 2373 ৅ 2374 ে 2375 ে 2376 ৈ 2377 ো 2378 ো 2379 ো 2380 ৌ 2 381 ্ 2382 ি 2383 ৌ 2384 ঔঁ 2385 ঁ 2386 ু 2387 ে 2388 ো 2389 ৅ 2390 ু 2391 ূ 2392 क़ 2393 ख़ 2394 ग़ 2395 ज़ 2396 ड़ 2397 ढ़ 2398 फ़ 2399 य़ 2400 ৠ 2401 ঌ 2402 ৣ 2403 ৣ 2 404 । 2405 ॥ 2406 ০ 2407 ১ 2408 ২ 2409 ৩ 2410 ৪ 2411 ৫ 2412 ৬ 2413 ৭ 2414 ৮ 2415 ৯ 2416 ° 2417 ঁ 2418 অঁ 2419 অ 2420 আ 2421 औ 2422 অু 2423 অূ 2424 ক 2425 ज़ 2426 ষ 2427 গ় 2428 জ় 2429 ? 2430 ড় 2431 ব় 2432 ৭ 2433 ঁ 2434 ং 2435 ঃ 2436 ৹ 2437 অ 2438 আ 2439 ই 2440 ঈ 2441 উ 2442 ঊ 2443 ঋ 2444 ঌ 2445 ৹ 2446 ৹ 2447 এ 2448 ঐ 2449 ৹ 2450 ৹ 2451 ও 2452 ঔ 2453 ক 2454 খ 2455 গ 2456 ঘ 2457 ঙ 2458 চ 2459 ছ 2 460 জ 2461 ঝ 2462 ঞ 2463 ট 2464 ঠ 2465 ড 2466 ঢ 2467 ণ 2468 ত 2469 থ 2470 দ 2 471 ধ 2472 ন 2473 ৹ 2474 প 2475 ফ 2476 ব 2477 ভ 2478 ম 2479 য 2480 র 2481 ৹ 24 82 ল 2483 ৹ 2484 ৹ 2485 ৹ 2486 শ 2487 ষ 2488 স 2489 হ 2490 ৹ 2491 ৹ 2492 ় 2493 ঽ 2494 া 2495 ি 2496 ী 2497 ু 2498 ূ 2499 ৃ 2500 ৄ 2501 ৹ 2502 ৹ 2503 ে 2504 ৈ 25 05 ৹ 2506 ৹ 2507 ো 2508 ৌ 2509 ্ 2510 ৎ 2511 ৹ 2512 ৹ 2513 ৹ 2514 ৹ 2515 ৹ 2516 ৹ 2517 ৹ 2518 ৹ 2519 ৹ 2520 ৹ 2521 ৹ 2522 ৹ 2523 ৹ 2524 ড় 2525 ঢ় 2526 ৹ 2527 য় 2528 ৠ 2529 ঌ 2530 ৢ 2531 ৣ 2532 ৹ 2533 ৹ 2534 ০ 2535 ১ 2536 ২ 2537 ৩ 2538 ৪ 25 39 ৫ 2540 ৬ 2541 ৭ 2542 ৮ 2543 ৯ 2544 ৰ 2545 ৱ 2546 ৲ 2547 ৳ 2548 ৵ 2549 ৶ 255 0 ৷ 2551 । 2552 ৸ 2553 ৹ 2554 ৺ 2555 ৻ 2556 ৼ 2557 ৽ 2558 ঁ 2559 ৹ 2560 ৹ 2561 ঁ 2562 ং 2563 ঃ 2564 ৹ 2565 অ 2566 আ 2567 ই 2568 ঈ 2569 উ 2570 ঊ 2571 ৹ 2572 ৹ 2 573 ৹ 2574 ৹ 2575 এ 2576 ঐ 2577 ৹ 2578 ৹ 2579 ও 2580 ঔ 2581 ক 2582 খ 2583 গ 25 84 ঘ 2585 ঙ 2586 চ 2587 ছ 2588 জ 2589 ঝ 2590 ঞ 2591 ট 2592 ঠ 2593 ড 2594 ঢ 259 5 ণ 2596 ত 2597 থ 2598 দ 2599 ধ 2600 ন 2601 ৹ 2602 প 2603 ফ 2604 ব 2605 ভ 2606 ম 2607 য 2608 র 2609 ৹ 2610 ল 2611 ল় 2612 ৹ 2613 ৲ 2614 শ় 2615 ৹ 2616 স 2617 হ 2618 ৹ 2619 ৹ 2620 ় 2621 ৹ 2622 ঁ 2623 ি 2624 ী 2625 ু 2626 ূ 2627 ৹ 2628 ৹ 2629 ৹ 2630 ৹ 2631 ে 2632 ৈ 2633 ৹ 2634 ৹ 2635 ে 2636 ঁ 2637 ্ 2638 ৹ 2639 ৹ 2640 ৹ 264 1 ্ 2642 ৹ 2643 ৹ 2644 ৹ 2645 ৹ 2646 ৹ 2647 ৹ 2648 ৹ 2649 য় 2650 ড়া 2651 ঢ় 2652 ঽ 2653 ৹ 2654 ফ় 2655 ৹ 2656 ৹ 2657 ৹ 2658 ৹ 2659 ৹ 2660 ৹ 2661 ৹ 2662 ০ 2663 ১ 266 4 ২ 2665 ৩ 2666 ৪ 2667 ৫ 2668 ৬ 2669 ৭ 2670 ৮ 2671 ৯ 2672 ঁ 2673 ং 2674 ঃ 2675 ঊ 2676 ৭ঁ 2677 ৃ 2678 · 2679 ৹ 2680 ৹ 2681 ৹ 2682 ৹ 2683 ৹ 2684 ৹ 2685 ৹ 2686 ৹ 2 687 ৹ 2688 ৹ 2689 ঁ 2690 ঁ 2691 ঃ 2692 ৹ 2693 অ 2694 আ 2695 ঃ 2696 ই 2697 ঊ 26

98 ઊ 2699 ઋ 2700 ૡ 2701 ઍ 2702 □ 2703 એ 2704 ઐ 2705 ઑ 2706 □ 2707 ઓ 2708 ઔ 2709 ક 2710 ખ 2711 ગ 2712 ઘ 2713 ઙ 2714 ચ 2715 છ 2716 જ 2717 ઝ 2718 ઞ 2719 ટ 2720 ઠ 2721 ડ 2722 ઢ 2723 ણ 2724 ત 2725 થ 2726 દ 2727 ધ 2728 ન 2729 □ 2730 પ 2731 ફ 2732 બ 2733 ભ 2734 મ 2735 ય 2736 ર 2737 □ 2738 લ 2739 ળ 2740 □ 2741 વ 2742 શ 2743 ષ 2744 સ 2745 હ 2746 □ 2747 □ 2748 ◌ઁ 2749 ડ 2750 ◌ા 2751 ◌િ 2752 ◌ી 2753 ◌ુ 2754 ◌ૂ 2755 ◌ૃ 2756 ◌ૄ 2757 ◌ૅ 2758 □ 2759 ◌ે 2760 ◌ૈ 2761 ◌ૉ 2762 □ 2763 ◌ો 2764 ◌ૌ 2765 ◌્ 2766 □ 2767 □ 2768 ૐ 2769 □ 2770 □ 2771 □ 2772 □ 2773 □ 2774 □ 2775 □ 2776 □ 2777 □ 2778 □ 2779 □ 2780 □ 2781 □ 2782 □ 2783 □ 2784 ૠ 2785 ૡ 2786 ◌ૢ 2787 ◌ૣ 2788 □ 2789 □ 2790 ૦ 2791 ૧ 2792 ૨ 2793 ૩ 2794 ૪ 2795 ૫ 2796 ૬ 2797 ૭ 2798 ૮ 2799 ૯ 2800 ૰ 2801 ૱ 2802 □ 2803 □ 2804 □ 2805 □ 2806 □ 2807 □ 2808 □ 2809 ૹ 2810 ◌ૺ 2811 ◌ૻ 2812 ◌ૼ 2813 ◌૽ 2814 ◌૾ 2815 ◌૿ 2816 □ 2817 ◌ଁ 2818 ◌ଂ 2819 ◌ଃ 2820 □ 2821 ଅ 2822 ଆ 2823 ଇ 2824 ଈ 2825 ଉ 2826 ଊ 2827 ଋ 2828 ଌ 2829 □ 2830 □ 2831 ଏ 2832 ଐ 2833 □ 2834 □ 2835 ଓ 2836 ଔ 2837 କ 2838 ଖ 2839 ଗ 2840 ଘ 2841 ଙ 2842 ଚ 2843 ଛ 2844 ଜ 2845 ଝ 2846 ଞ 2847 ଟ 2848 ଠ 2849 ଡ 2850 ଢ 2851 ଣ 2852 ତ 2853 ଥ 2854 ଦ 2855 ଧ 2856 ନ 2857 □ 2858 ପ 2859 ଫ 2860 ବ 2861 ଭ 2862 ମ 2863 ଯ 2864 ର 2865 □ 2866 ଲ 2867 ଳ 2868 □ 2869 ଵ 2870 ଶ 2871 ଷ 2872 ସ 2873 ହ 2874 □ 2875 □ 2876 ◌଼ 2877 ◌ଽ 2878 ◌ା 2879 ◌ି 2880 ◌ୀ 2881 ◌ୁ 2882 ◌ୂ 2883 ◌ୃ 2884 ◌ୄ 2885 □ 2886 □ 2887 ◌େ 2888 ◌ୈ 2889 □ 2890 □ 2891 ◌ୋ 2892 ◌ୌ 2893 ◌୍ 2894 □ 2895 □ 2896 □ 2897 □ 2898 □ 2899 □ 2900 □ 2901 ◌ୖ 2902 ◌ୗ 2903 ◌ୠ 2904 □ 2905 □ 2906 □ 2907 □ 2908 ଡ଼ 2909 ଢ଼ 2910 □ 2911 ୟ 2912 ୡ 2913 ୢ 2914 ◌ୣ 2915 ◌୤ 2916 □ 2917 □ 2918 ୦ 2919 ୧ 2920 ୨ 2921 ୩ 2922 ୪ 2923 ୫ 2924 ୬ 2925 ୭ 2926 ୮ 2927 ୯ 2928 ୰ 2929 ୱ 2930 । 2931 ୳ 2932 ୴ 2933 / 2934 ୵ 2935 ୶ 2936 □ 2937 □ 2938 □ 2939 □ 2940 □ 2941 □ 2942 □ 2943 □ 2944 □ 2945 □ 2946 ◌ஂ 2947 ஃ 2948 □ 2949 அ 2950 ஆ 2951 இ 2952 ஈ 2953 உ 2954 ஊ 2955 □ 2956 □ 2957 □ 2958 எ 2959 ஏ 2960 ஐ 2961 □ 2962 ஒ 2963 ஓ 2964 ஔ 2965 க 2966 □ 2967 □ 2968 □ 2969 ங 2970 ச 2971 □ 2972 ஜ 2973 □ 2974 ஞ 2975 ட 2976 □ 2977 □ 2978 □ 2979 ண 2980 த 2981 □ 2982 □ 2983 □ 2984 ந 2985 ன 2986 ப 2987 □ 2988 □ 2989 □ 2990 ம 2991 ய 2992 ர 2993 ற 2994 ல 2995 ள 2996 ழ 2997 வ 2998 ஶ 2999 ஷ

In [5]:
```
for i in range(65,91):
    print(i,chr(i))
```

```
65 A
66 B
67 C
68 D
69 E
70 F
71 G
72 H
73 I
74 J
75 K
76 L
77 M
78 N
79 O
80 P
81 Q
82 R
83 S
84 T
85 U
86 V
87 W
88 X
89 Y
90 Z
```

In [13]:
```
for i in range(ord('A'), ord('Z')+1):
    print(i, "-->", chr(i))
```

```
65 --> A
66 --> B
67 --> C
68 --> D
69 --> E
70 --> F
71 --> G
72 --> H
73 --> I
74 --> J
75 --> K
76 --> L
77 --> M
78 --> N
79 --> O
80 --> P
81 --> Q
82 --> R
83 --> S
84 --> T
85 --> U
86 --> V
87 --> W
88 --> X
89 --> Y
90 --> Z
```

in operator means

- there should be a **string**
- there should be a **List**
- there should be a **Tupul**
- there should be a **Dictionary**
- **they not should be a number**

Range Operator means

- **Only a numbers**
- No string,list,tupul,dict

In [14]:
```
import string

for i in string.ascii_uppercase:
    print(i,ord(i))
```

```
A 65
B 66
C 67
D 68
E 69
F 70
G 71
H 72
I 73
J 74
K 75
L 76
M 77
N 78
O 79
P 80
Q 81
R 82
S 83
T 84
U 85
V 86
W 87
X 88
Y 89
Z 90
```

iterator

- in operator access direct elements which is called **iterator/iterable**
- iterable means
  - String
  - List
  - Tupul
  - Dictionary
- Iterator means which can be print by using for loop
- Whenever we use **in operator** don't give the numbers
- whenever we use **range operator** don't give any iterator
- range needs only a numbers

In [60]:
```
sorted('python')

# [104,110,111,112,116,121] responce comes in lower to higher
```

Out[60]:
```
['h', 'n', 'o', 'p', 't', 'y']
```

In [61]:
```
ord('p'),ord('y'),ord('t'),ord('h'),ord('o'),ord('n')
```

```
Out[61]: (112, 121, 116, 104, 111, 110)
```