Generators

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| *#Ex1 Find the Range of 5* print(range(5)) *# range(0, 5)* |

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| *#Ex2 Find the range of 5* r = range(5) **for** i **in** r:  print(i, end = **" "**) *# 0 1 2 3 4* |

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| *#Ex3 Multiply the range using forloop* **def** d1(n):  lst = []  **for** i **in** range(n):  lst.append(i \*\* 2)  **return** lst  **for** j **in** d1(5):  print(j, end = **' '**) *# 0 1 4 9 16  # i = n \*\*2, i = 0 \*\* 2 = 0 # i = n \*\*2, i = 1 \*\* 2 = 1 # i = n \*\*2, i = 2 \*\* 2 = 4 # i = n \*\*2, i = 3 \*\* 2 = 9 # i = n \*\*2, i = 4 \*\* 2 = 16* |

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| *#Ex4 Multiply the range using forloop with list comprehensions* **def** d1():  **for** x **in** [n \*\* 2 **for** n **in** range(5)]:  print(x, end = **" "**) *# 0 1 4 9 16* d1()  *# i = n \*\*2, i = 0 \*\* 2 = 0 # i = n \*\*2, i = 1 \*\* 2 = 1 # i = n \*\*2, i = 2 \*\* 2 = 4 # i = n \*\*2, i = 3 \*\* 2 = 9 # i = n \*\*2, i = 4 \*\* 2 = 16* |

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| *#Ex5 Multiply the range using forloop with map function* **def** d1():  **for** x **in** map((**lambda** n : n \*\*2), range(5)):  print(x, end = **" "**) *# 0 1 4 9 16* d1()  *# i = n \*\*2, i = 0 \*\* 2 = 0 # i = n \*\*2, i = 1 \*\* 2 = 1 # i = n \*\*2, i = 2 \*\* 2 = 4 # i = n \*\*2, i = 3 \*\* 2 = 9 # i = n \*\*2, i = 4 \*\* 2 = 16* |

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| *# Ex6 Using Generators* **def** d1(n):  **for** i **in** range(n):  **yield** i \*\* 2 *# i = n \*\*2, i = 0 \*\* 2 = 0* d = d1(5) print(d) *# <generator object d2 at 0x000001F92F687120>* print(type(d)) *# <class 'generator'>  # next() method returns the next item from the iteration* print(next(d)) *# 0* print(next(d)) *# 1* print(next(d)) *# 4* print(next(d)) *# 9* print(next(d)) *# 16 # print(next(d)) # StopIteration* **for** i **in** d1(5): *# loading all sequence at a time* print(i, end = **" "**) *# 0 1 4 9 16  # i = n \*\*2, i = 0 \*\* 2 = 0 # i = n \*\*2, i = 1 \*\* 2 = 1 # i = n \*\*2, i = 2 \*\* 2 = 4 # i = n \*\*2, i = 3 \*\* 2 = 9 # i = n \*\*2, i = 4 \*\* 2 = 16*  ***Output***  *<generator object d1 at 0x0000023397A97120>*  *<class 'generator'>*  *0*  *1*  *4*  *9*  *16*  *0 1 4 9 16* |