In  $[]: myset = \{1, 2, 3, 4, 5, \}$ myset In [2]: len(myset) Out[2]: 5 In [3]: my\_set = {1,1,2,2,3,4,5,5} my\_set Out[3]: {1, 2, 3, 4, 5} In [4]: myset1 = {1.79,2.08,3.99,4.56,5.45} myset1 Out[4]: {1.79, 2.08, 3.99, 4.56, 5.45} In [6]: myset2 = {'Asif' , 'John' ,'Tyrion'} myset2 Out[6]: {'Asif', 'John', 'Tyrion'} In [7]: myset3 = {10,20, "Hola",(11,22,33)} Out[7]: {(11, 22, 33), 10, 20, 'Hola'} In [8]: myset3 = {10,20, "Hola",[11,22,33]} myset3 TypeError Traceback (most recent call last) Cell In[8], line 1 ----> 1 myset3 = {10,20, "Hola",[11,22,33]} 2 myset3 TypeError: unhashable type: 'list' In [9]: myset4 = set() print(type(myset4)) <class 'set'> In [10]: my\_set1 = set(('one' ,'two' ,'three','four')) my\_set1 Out[10]: {'four', 'one', 'three', 'two'} LOOP THROUGH A SET In [11]: myset = {'one','two','three','four','five','six','seven','eight'} for i in myset: print(i) eight one seven six two three In [12]: for i in enumerate(myset): print(i) (0, 'eight') (1, 'one') (2, 'seven') (3, 'five') (4, 'six') (5, 'two') (6, 'three') (7, 'four') SET MEMBRSHIP In [13]: myset Out[13]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [14]: 'one' in myset Out[14]: True In [15]: 'ten' in myset Out[15]: False In [16]: if 'three' in myset: print('There is present in the set') else: print('There is not present in the set') There is present in the set In [17]: if 'eleven' in myset: print('eleven is present in the set') else: print('eleven is not present in the set') eleven is not present in the set In [18]: myset Out[18]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [19]: myset.add('NINE') myset Out[19]: {'NINE', 'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [21]: myset.update(['TEN','ELEVEN','TWELVE']) myset Out[21]: {'ELEVEN', 'NINE', 'TEN', 'TWELVE', 'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [22]: myset.remove('NINE') Out[22]: {'ELEVEN', 'TEN', 'TWELVE', 'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [23]: myset.discard('TEN') myset Out[23]: { 'ELEVEN', 'TWELVE', 'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [24]: myset.clear() myset Out[24]: set() In [25]: **del** myset myset NameError Traceback (most recent call last) Cell In[25], line 2 1 **del** myset ----> 2 myset NameError: name 'myset' is not defined COPY SET In [26]: myset = {'one','two','three','four','five','six','seven','eight'} myset Out[26]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [27]: myset1 = myset myset1 Out[27]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [28]: id(myset) ,id(myset1) Out[28]: (2112419705824, 2112419705824) In [29]: my\_set = myset.copy() my\_set Out[29]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} In [30]: id(my\_set) Out[30]: 2112419702912 In [31]: myset.add('nine') myset Out[31]: {'eight', 'five', 'four', 'nine', 'one', 'seven', 'six', 'three', 'two'} In [32]: myset1 Out[32]: {'eight', 'five', 'four', 'nine', 'one', 'seven', 'six', 'three', 'two'} In [33]: my\_set Out[33]: {'eight', 'five', 'four', 'one', 'seven', 'six', 'three', 'two'} SET OPERTION UNION In [38]:  $A = \{1, 2, 3, 4, 5\}$  $B = \{4, 5, 6, 7, 8\}$  $C = \{8, 9, 10\}$ In [37]: A | B Out[37]: {1, 2, 3, 4, 5, 6, 7, 8} In [39]: A.union(B) Out[39]: {1, 2, 3, 4, 5, 6, 7, 8} In [40]: A.union(B,C) Out[40]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} In [41]: A.union(B,C) Out[41]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} In [43]: A.update(B,C) Out[43]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} INTERSECTION In [45]: A =  $\{1,2,3,4,5\}$  $B = \{4, 5, 6, 7, 8, \}$ A & B Out[45]: {4, 5} In [44]: A & B Out[44]: {4, 5, 6, 7, 8} In [46]: A.intersection(B) Out[46]: {4, 5} In [47]: A.intersection\_update(B) Out[47]: {4, 5} DIFFERENCE In [50]: A =  $\{1,2,3,4,5\}$  $B = \{4, 5, 6, 7, 8\}$ A - B Out[50]: {1, 2, 3} In [56]: A - B Out[56]: {1, 2, 3, 4, 5} In [51]: A.difference(B) Out[51]: {1, 2, 3} In [52]: B - A Out[52]: {6, 7, 8} In [53]: B.difference(A) Out[53]: {6, 7, 8} In [54]: B.difference\_update(A) Out[54]: {6, 7, 8} SYMMETRIC DIFFERENCE In []:  $A = \{1, 2, 3, 4, 5\}$  $B = \{4, 5, 6, 7, 8\}$ In [55]: A ^ B Out[55]: {1, 2, 3, 4, 5, 6, 7, 8} In [57]: A.symmetric\_difference(B) Out[57]: {1, 2, 3, 4, 5, 6, 7, 8} In [58]: A.symmetric\_difference\_update(B) Out[58]: {1, 2, 3, 4, 5, 6, 7, 8} SUBSET, SUPERSET & DISJOINT In []:  $A = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$  $B = \{3, 4, 5, 6, 7, 8\}$  $C = \{10, 20, 30, 40\}$ In [59]: B.issubset (A) Out[59]: True In [60]: A.issuperset(B) Out[60]: True In [62]: C.isdisjoint(A) Out[62]: False In [63]: B.isdisjoint(A) Out[63]: False other bulitin functions In [64]: A Out[64]: {1, 2, 3, 4, 5, 6, 7, 8} In [65]: sum(A) Out[65]: 36 In [66]: max(A) Out[66]: 8 In [67]: min(A) Out[67]: 1 In [68]: len(A) Out[68]: 8 In [69]: list(enumerate(A)) Out[69]: [(0, 1), (1, 2), (2, 3), (3, 4), (4, 5), (5, 6), (6, 7), (7, 8)] In [70]: D = sorted(A, reverse=True) Out[70]: [8, 7, 6, 5, 4, 3, 2, 1] In [71]: sorted(D) Out[71]: [1, 2, 3, 4, 5, 6, 7, 8] DICTIONARY CREATE DICTIONARY In [72]: mydict = dict() mydict Out[72]: {} In [73]: mydict = {} mydict Out[73]: {} In [74]: mydict = {1:'one' ,2:'two', 3:'three'} mydict Out[74]: {1: 'one', 2: 'two', 3: 'three'} In [75]: mydict = dict({1:'one' , 2:'two' ,3:'three'}) mydict Out[75]: {1: 'one', 2: 'two', 3: 'three'} In [76]: mydict = {'A':'one' , 'B':'two' ,'c':'three'} mydict Out[76]: {'A': 'one', 'B': 'two', 'c': 'three'} In [77]: mydict = {1:'one' ,'A':'two' ,3:'three'} mydict Out[77]: {1: 'one', 'A': 'two', 3: 'three'} In [78]: mydict.keys() Out[78]: dict\_keys([1, 'A', 3]) In [79]: mydict.values() Out[79]: dict\_values(['one', 'two', 'three']) In [80]: mydict.items() Out[80]: dict\_items([(1, 'one'), ('A', 'two'), (3, 'three')]) In [83]: mydict = {1:'one' ,2:'two' ,'A':['asif' ,'john','Maria']} Out[83]: {1: 'one', 2: 'two', 'A': ['asif', 'john', 'Maria']} In [84]: mydict = {1:'one' , 2:'two' ,'A':['asif','john','Maria'], 'B':('Bat' , 'cat' , 'hat')} mydict Out[84]: {1: 'one', 2: 'two', 'A': ['asif', 'john', 'Maria'], 'B': ('Bat', 'cat', 'hat')} In [85]: mydict = {1:'one' , 2:'two' , 'A':{'Name':'asif' ,'Age' :20}, 'B':('Bat' ,'cat' ,'hat')} mydict Out[85]: {1: 'one', 2: 'two', 'A': {'Name': 'asif', 'Age': 20}, 'B': ('Bat', 'cat', 'hat')} In [86]: keys = {'a','b', 'c', 'd'} mydict3 = dict.fromkeys(keys) mydict3 Out[86]: {'a': None, 'b': None, 'd': None, 'c': None} In [87]: keys = {'a', 'b', 'c', 'd'} value = 10 mydict3 = dict.fromkeys(keys , value) mydict3 Out[87]: {'a': 10, 'b': 10, 'd': 10, 'c': 10} In [88]: mydict3 Out[88]: {'a': 10, 'b': 10, 'd': 10, 'c': 10} In [90]: keys = {'a', 'b', 'c', 'd'} value = [10, 20, 30]mydict3 = dict.fromkeys(keys , value) In [91]: mydict3 Out[91]: {'a': [10, 20, 30], 'b': [10, 20, 30], 'd': [10, 20, 30], 'c': [10, 20, 30]} In [93]: mydict3 Out[93]: {'a': [10, 20, 30], 'b': [10, 20, 30], 'd': [10, 20, 30], 'c': [10, 20, 30]} In [94]: value.append(40) mydict3 ut[94]: {'a': [10, 20, 30, 40], 'b': [10, 20, 30, 40], 'd': [10, 20, 30, 40], 'c': [10, 20, 30, 40]} ACCESSING ITEMS In [95]: mydict Out[95]: {1: 'one', 2: 'two', 'A': {'Name': 'asif', 'Age': 20}, 'B': ('Bat', 'cat', 'hat')} In [96]: mydict = {1:'one' , 2:'two', 3:'three' ,4:'four'} mydict Out[96]: {1: 'one', 2: 'two', 3: 'three', 4: 'four'} In [97]: mydict[1] Out[97]: 'one' In [98]: mydict.get(1) Out[98]: 'one' In [100... mydict1 = {'Name':'Asif' ,'ID': 743121 ,'DOB':1991 , 'job' :'Analyst'} mydict1 Out[100... {'Name': 'Asif', 'ID': 743121, 'DOB': 1991, 'job': 'Analyst'} In [101... mydict1['Name'] Out[101... 'Asif' In [102... mydict1.get('job') Out[102... 'Analyst' ADD , REMOVE & CHANGE ITEMS In [103... mydict1 Out[103... {'Name': 'Asif', 'ID': 743121, 'DOB': 1991, 'job': 'Analyst'} In [104... mydict1['DOB'] = 1992 mydict1['job'] = 'scientist' mydict1 Out[104... {'Name': 'Asif', 'ID': 743121, 'DOB': 1992, 'job': 'scientist'} In [105... dict1 = {'Name': 'priyanshi'} mydict1.update(dict1) mydict1 Out[105... {'Name': 'priyanshi', 'ID': 743121, 'DOB': 1992, 'job': 'scientist'} In [106... mydict1['Address'] = 'Amarpreet' mydict1 Out[106... {'Name': 'priyanshi', 'ID': 743121, 'DOB': 1992, 'job': 'scientist', 'Address': 'Amarpreet'} In [107... mydict1.pop('job') mydict1 Out[107... {'Name': 'priyanshi', 'ID': 743121, 'DOB': 1992, 'Address': 'Amarpreet'} In [108... mydict1.popitem() Out[108... ('Address', 'Amarpreet') In [109... **del**[mydict1['DOB']] mydict1 Out[109... {'Name': 'priyanshi', 'ID': 743121} In [110... mydict1.clear() mydict1 Out[110... {} In [111... **del** mydict1 mydict1 Traceback (most recent call last) NameError Cell In[111], line 2 1 **del** mydict1 ----> **2** mydict1 NameError: name 'mydictl' is not defined COPY DICTIONARY In [112... mydict Out[112... {1: 'one', 2: 'two', 3: 'three', 4: 'four'} In [113... mydict = {'Name':'priyanshi' , 'ID': 123456 , 'DOB':2004 , 'Address' : 'Amarpreet'} mydict Out[113... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet'} In [114... mydict1 = mydict In [115... id(mydict) , id(mydict1) Out[115... (2112437641728, 2112437641728) In [116... mydict2 = mydict.copy() In [117... id(mydict2) Out[117... 2112437753600 In [119... mydict['Adreess'] = 'Hyderabad' mydict Out[119... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet', 'Adreess': 'Hyderabad'} In [118... mydict Out[118... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet'} In [120... mydict1 Out[120... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet', 'Adreess': 'Hyderabad'} In [121... mydict2 Out[121... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet'} LOOP THROUGH A DICTIONARY In [122... mydict1 Out[122... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet', 'Adreess': 'Hyderabad'} In [127... **for** i **in** mydict1: print(i, ':' ,mydict1[i]) Name : priyanshi ID : 123456 DOB : 2004 Address : Amarpreet Adreess : Hyderabad In [128... **for** i **in** mydict1: print(mydict1[i]) priyanshi 123456 2004 Amarpreet Hyderabad DICTIONARY MEMBERSHIP In [129... mydict1 Out[129... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet', 'Adreess': 'Hyderabad'} In [130... 'Name' in mydict1 Out[130... True In [131... '2004' in mydict1 Out[131... False In [132... 'ID' in mydict1 Out[132... True In [133... 'Address' in mydict1 Out[133... True ALL / ANY In [134... mydict1 Out[134... {'Name': 'priyanshi', 'ID': 123456, 'DOB': 2004, 'Address': 'Amarpreet', 'Adreess': 'Hyderabad'}

SET CREATION

