Week 6- Programs on dictionary and Files

Program 1	Write a program to print a dictionary where the keys are numbers between 1 and 15 and the values are cube of keys.
	Algorithm: Step 1 =take the input from the user Step 2 = open an dictionary Step 3 = calculate the cube using power

	Program :
	`v=int(input("range till you need to generate cubes "))`
	`cube = dict()`
	`for x in range(1,v+1):`
	`  cube[x]=pow(x,3)`
	`print("The resultant dictionary with cube ass value numbers between 1 and ",v,"is\n",cube)`

	Output:
	`range till you need to generate cubes 5`
	`The resultant dictionary with cube ass value numbers between 1 and  5 is`
	`{1: 1, 2: 8, 3: 27, 4: 64, 5: 125}`
	`>>>`

Program 2	Construct dictionary phone_book with : Key:number of entries, Values: (name, phone number, email, address) and perform the following operations: i) Add a new number to phone book ii) delete number from phone book.
	Algorithm: Step 1 = given the values Step 2 = print the phone book Step 3 = add a new entry to phonebook Step 4 = use del function for deleting

	Program:
	`values=[("Rashma",8105731555,"rashma@gmail.com","Banglore"),("Bharathi",9276895311,"bharathi@yahoo.com","Coimbathore"),`
	`("Deepthi",8976885553,"deepthi@gmail.com","Banglore"),("kakili",8816121598,"kakili@gmail.com","dispur")]`
	
	`Pho_book = dict(enumerate(values,1))`
	`print("\n Phone book\n")`
	`print(Pho_book)`
	`print("adding a new entry to phone book")`
	`Pho_book[len(Pho_book)+1]=[("sreenath",9872345670,"sreenath@pes.edu","kolar")]`
	`print("after adding \n",Pho_book)`
	`s=len(Pho_book)`
	
	`#delete entry from phone book`
	`key=int(input("enter key between to be deleted"))`
	`if key in Pho_book:`
	`  del Pho_book[key]`
	`else:`
	`  print("key not found")`
	`print("after  deletion of key",key,"is \n",Pho_book)`

	Output : `Phone book` `{1: ('Rashma', 8105731555, 'rashma@gmail.com', 'Banglore'), 2: ('Bharathi', 9276895311, 'bharathi@yahoo.com', 'Coimbathore'), 3: ('Deepthi', 8976885553, 'deepthi@gmail.com', 'Banglore'), 4: ('kakili', 8816121598, 'kakili@gmail.com', 'dispur')}` `adding a new entry to phone book` `after adding` `{1: ('Rashma', 8105731555, 'rashma@gmail.com', 'Banglore'), 2: ('Bharathi', 9276895311, 'bharathi@yahoo.com', 'Coimbathore'), 3: ('Deepthi', 8976885553, 'deepthi@gmail.com', 'Banglore'), 4: ('kakili', 8816121598, 'kakili@gmail.com', 'dispur'), 5: [('sreenath', 9872345670, 'sreenath@pes.edu', 'kolar')]}` `enter key between to be deleted4` `after deletion of key 4 is` `{1: ('Rashma', 8105731555, 'rashma@gmail.com', 'Banglore'), 2: ('Bharathi', 9276895311, 'bharathi@yahoo.com', 'Coimbathore'), 3: ('Deepthi', 8976885553, 'deepthi@gmail.com', 'Banglore'), 5: [('sreenath', 9872345670, 'sreenath@pes.edu', 'kolar')]}` `>>>`
Program 3	Given list of students, marks for phy, chem, maths and biology form a dictionary where key is SRN and values is dictionary containing PCMP marks of respective student.
	Algorithm Step 1 = for the given data Step 2 = use a for function

	Program:
	`Stu_marks=['PECS001','PECS015''PECS065''PECS035''PECS038']`
	`p1 =[98,99,85,92,79]`
	`c1 = [91,90,84,98,99]`
	`m1 = [78,39,60,50,84]`
	`b1 =[95,59,78,80,89]`
	`mks1={}`
	`s = 0`
	`for i in Stu_marks :`
	`  mks1[i]={"Physics":p1[s],"Chemistry":c1[s],"Mathematics":`
	`  m1[s],"Biology":b1[s]}`
	`  s+=1`
	`print("Marks sheet dictionary :",mks1)`

	Output:
	`Marks sheet dictionary : {'PECS001': {'Physics': 98, 'Chemistry': 91, 'Mathematics': 78, 'Biology': 95}, 'PECS015PECS065PECS035PECS038': {'Physics': 99, 'Chemistry': 90, 'Mathematics': 39, 'Biology': 59}}`
	`>>>`

Program 4	a)Read movie data from mov1.csv file. CSV file mov1.csv has three columns c1 has year,c2 has rating,c3 has movie name. b) write year of release and movie name from mov1.csv to a text file
	Algorithm Step 1 = Take the mov1.csv file then Step 2 = read the values

	Step 3 = use readline,strip,split function

	Program
	#a)
	f=open('mov1.csv')
	l=f.read()
	print(l)
	f.close
	
	#b)
	f=open('mov1.csv','r')
	f1=open('mov.txt','w')
	l=f.readline()
	while l:
	  l=l.strip()
	  s=l.split(',')
	  print(s[0],s[-1],file=f1)
	  l=f.readline()
	f.close()
	f1.close()

	Output **A)** 1968,86,Greetings 1970,17,Bloody Mama 1970,73,Hi 1971,40,Born to Win 1973,98,Mean Streets 1973,88,Bang the Drum Slowly 1974,97,The Godfather 1976,41,The Last Tycoon 1976,99,Taxi Driver 1977,47,1900 1977,67,New York 1978,93,The Deer Hunter 1980,97,Raging Bull 1981,75,True Confessions 1983,90,The King of Comedy 1984,89,Once Upon a Time in America 1984,60,Falling in Love 1985,98,Brazil 1986,65,The Mission

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1987,100,Dear America: Letters Home From Vietnam
1987,80,The Untouchables
1987,78,Angel Heart
1988,96,Midnight Run
1989,64,Jacknife
1989,47,We're No Angels
1990,88,Awakenings
1990,29,Stanley & Iris
1990,96,Goodfellas
1991,76,Cape Fear
1991,69,Mistress
1991,65,Guilty by Suspicion
1991,71,Backdraft
1992,87,Thunderheart
1992,67,Night and the City
1993,75,This Boy's Life
1993,78,Mad Dog and Glory
1993,96,A Bronx Tale
1994,39,Mary Shelley's Frankenstein
1995,80,Casino
1995,86,Heat
1996,74,Sleepers
1996,38,The Fan
1996,80,Marvin's Room
1997,85,Wag the Dog
1997,87,Jackie Brown
1997,72,Cop Land
1998,68,Ronin
1998,38,Great Expectations
1999,69,Analyze This
1999,43,Flawless
2000,43,The Adventures of Rocky & Bullwinkle
2000,84,Meet the Parents
2000,41,Men of Honor
2001,73,The Score
2001,33,15 Minutes
2002,48,City by the Sea
2002,27,Analyze That
2003,4,Godsend
2004,35,Shark Tale
2004,38,Meet the Fockers
2005,4,The Bridge of San Luis Rey
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B)

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1968 Greetings
1970 Bloody Mama
1970 Hi
1971 Born to Win
1973 Mean Streets
1973 Bang the Drum Slowly
1974 The Godfather
1976 The Last Tycoon
1976 Taxi Driver
1977 1900
1977 New York
1978 The Deer Hunter
1980 Raging Bull
1981 True Confessions
1983 The King of Comedy
1984 Once Upon a Time in America
1984 Falling in Love
1985 Brazil
1986 The Mission
1987 Dear America: Letters Home From Vietnam
1987 The Untouchables
1987 Angel Heart
1988 Midnight Run
1989 Jacknife
1989 We're No Angels
1990 Awakenings
1990 Stanley & Iris
1990 Goodfellas
1991 Cape Fear
1991 Mistress
1991 Guilty by Suspicion
1991 Backdraft
1992 Thunderheart
1992 Night and the City
1993 This Boy's Life
1993 Mad Dog and Glory
1993 A Bronx Tale
1994 Mary Shelley's Frankenstein
1995 Casino
1995 Heat
1996 Sleepers
```

Program 5	From file mov1.csv make a dictionary with Key as year and values as name of movies released in that year.

	Algorithm
	Step 1 = read the mov1.csv file
	Step 2 = use for function
	Step 3 = use if function
	Step 4 = use the print function
	Program
	`f1=open('mov1.csv','r')`
	`d=dict()`
	`for i in f1:`
	`  i=i.strip()`
	`  s=i.split(',')`
	`  if s[0] not in d:`
	`  d[s[0]]=[]`
	`  d[s[0]].insert(0,s[2])`
	`  i=f1.readline()`
	`print(d)`

	Output `{'1968': ['Greetings'], '1970': ['Hi'], '1973': ['Mean Streets'], '1974': ['The Godfather'], '1976': ['Taxi Driver'], '1977': ['New York'], '1980': ['Raging Bull'], '1983': ['The King of Comedy'], '1984': ['Falling in Love'], '1986': ['The Mission'], '1987': ['The Untouchables'], '1988': ['Midnight Run'], '1989': ["We're No Angels"], '1990': ['Stanley & Iris'], '1991': ['Cape Fear'], '1992': ['Thunderheart'], '1993': ["This Boy's Life"], '1994': ["Mary Shelley's Frankenstein"], '1995': ['Heat'], '1996': ['The Fan'], '1997': ['Wag the Dog'], '1998': ['Ronin'], '1999': ['Analyze This'], '2000': ['The Adventures of Rocky & Bullwinkle'], '2001': ['The Score'], '2002': ['City by the Sea'], '2003': ['Godsend'], '2004': ['Meet the Fockers'], '2005': ['Rent'], '2006': ['The Good Shepherd'], '2007': ['Captain Shakespeare'], '2008': ['What Just Happened?'], '2010': ['Machete'], '2011': ['Killer Elite'], '2012': ['Silver Linings Playbook'], '2013': ['Last Vegas'], '2014': ['The Bag Man'], '2015': ['Heist'], '2016': ['Dirty Grandpa']}` `>>>`
Program 6	In the given dictionary find total marks and percentage **{'PECS001': {'phy': 79, 'chem'**: 99, 'mat': 84, 'Bio': 84}, 'PECS015': {'phy': 79, 'chem': 99, 'mat': 84, 'Bio': 84}, 'PECS06**5': {'phy': 79, 'chem': 99, 'mat': 84, 'Bio': 84}, 'PECS035': {'phy': 79, 'chem': 99, 'mat': 84, 'Bio': 84}, 'PECS038': {'phy': 79, 'chem': 99, 'mat': 84, 'Bio': 84}}**
	Algorithm Step 1 = open a new dictionary for the new data Step 2 = calculate the percentage total marks etc Step 3 = print the total marks of the submit
	Program

```
stu = {'PECS001':{'phy':79,'chem':99,'mat':84,'bio':84},
       'PECS015':{'phy':79,'chem':99,'mat':84,'bio':84},
       'PECS065':{'phy':79,'chem':99,'mat':84,'bio':84},
       'PECS035':{'phy':79,'chem':99,'mat':84,'bio':84},
       'PECS038':{'phy':79,'chem':99,'mat':84,'bio':84}}
d={}
score_card={}
for key,marks in stu.items():
    d["Total"]=sum(marks.values())
    score_card["Percentage"]=d["Total"]/len(marks)
print("Total marks of each student ",d)
print("Percentage of each student ",score_card)
```

Output

```
Total marks of each student  {'Total': 346}
Percentage of each student  {'Percentage': 86.5}
>>>
```