Data analysis / manipulation (Awk)

Id	Employee Nam	e Job Title	Base Pay	Overtime Pay	Other Pay	Total Pay	TotalPayBenefits
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	32343
5	PATRICK	DEPUTY CHIEF	134401	9737	182234	326373	326373
6	DAVID	ASST DEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALION CHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTY DIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

Id EmployeeName JobTitle BasePay OvertimePay OtherPay TotalPayBe

Answer

ne.	Ilts						
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580
Em NA' GAL CH PA' DA' AL	ployeeNameT FHANIEL5675 RY538909 BERT335279 RISTOPHER33 FRICK326373 VID316285 SON315981	95	\$7}' da	ta.csv			
DA	VID307899						
JO.	ANNE302377						

Question a) Read data file 'data.csv' from command line and extract rows which have BasePay > 10000

167411 0

BasePay OvertimePay OtherPay TotalPayBe

400184 567595 567595

Answer

nefits

1 NATHANIEL

PATRICIA--297608 EDWARD--294580

Id EmployeeName JobTitle

2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580
ROI	HIT GUPTA@ROH	IT MINGW64 /e/cod	de/linux-	-content (mas	ster)		
\$ 8	awk '\$4 > 1000	00 {print \$0}' da	ata.csv				
Td	EmployeeName	T-1-m-+1-	D D	A			
		JobTitle	Baseray	OvertimePay	OtherPay	TotalPay	TotalPayBe
	Eits	JobTitle	ваѕегау	Overtimeray	OtherPay	TotalPay	TotalPayBe
		GM	167411	0 OvertimePay	OtherPay	TotalPay 567595	TotalPayBe 567595
nei	fits		_		-		
nei 1	Fits NATHANIEL	GM	167411	0	400184	567595	567595
nei 1 2	Eits NATHANIEL GARY	GM CAPTAIN	167411 155966	0 245131	400184 137811	567595 538909	567595 538909
ne: 1 2 3	Fits NATHANIEL GARY ALBERT	GM CAPTAIN CAPTAIN	167411 155966 212739	0 245131 106088	400184 137811 16452	567595 538909 335279	567595 538909 335279
ne: 1 2 3 4	Fits NATHANIEL GARY ALBERT CHRISTOPHER	GM CAPTAIN CAPTAIN MECHANIC	167411 155966 212739 77916	0 245131 106088 56120	400184 137811 16452 198306	567595 538909 335279 332343	567595 538909 335279 332343
ne: 1 2 3 4 5	Fits NATHANIEL GARY ALBERT CHRISTOPHER PATRICK	GM CAPTAIN CAPTAIN MECHANIC DEPUTYCHIEF	167411 155966 212739 77916 134401	0 245131 106088 56120 9737	400184 137811 16452 198306 182234	567595 538909 335279 332343 326373	567595 538909 335279 332343 326373
ne: 1 2 3 4 5	Fits NATHANIEL GARY ALBERT CHRISTOPHER PATRICK DAVID	GM CAPTAIN CAPTAIN MECHANIC DEPUTYCHIEF ASSTDEPUTY	167411 155966 212739 77916 134401 118602	0 245131 106088 56120 9737 8601	400184 137811 16452 198306 182234 189082	567595 538909 335279 332343 326373 316285	567595 538909 335279 332343 326373 316285
ne: 1 2 3 4 5 6 7	Fits NATHANIEL GARY ALBERT CHRISTOPHER PATRICK DAVID ALSON	GM CAPTAIN CAPTAIN MECHANIC DEPUTYCHIEF ASSTDEPUTY BATTALIONCHIEF	167411 155966 212739 77916 134401 118602 92492	0 245131 106088 56120 9737 8601 89062	400184 137811 16452 198306 182234 189082 134426	567595 538909 335279 332343 326373 316285 315981	567595 538909 335279 332343 326373 316285 315981
nes 1 2 3 4 5 6 7	Fits NATHANIEL GARY ALBERT CHRISTOPHER PATRICK DAVID ALSON DAVID	GM CAPTAIN CAPTAIN MECHANIC DEPUTYCHIEF ASSTDEPUTY BATTALIONCHIEF DEPUTYDIRECTOR	167411 155966 212739 77916 134401 118602 92492 256576	0 245131 106088 56120 9737 8601 89062	400184 137811 16452 198306 182234 189082 134426 51322	567595 538909 335279 332343 326373 316285 315981 307899	567595 538909 335279 332343 326373 316285 315981 307899

Question b) Print only EmployeeName and TotalPay

Answer

Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	TotalPay	TotalPayBenefit
s							
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

```
ROHIT GUPTA@ROHIT MINGW64 /e/code/linux-content (master)
$ awk '{print $2"--"$7}' data.csv
```

EmployeeName--TotalPay

NATHANIEL--567595

GARY--538909

ALBERT--335279

CHRISTOPHER--332343

PATRICK--326373

DAVID--316285 ALSON--315981

JOANNE--302377 PATRICIA--297608 EDWARD--294580

DAVID--307899

Question ii) What is the aggregate TotalPay of employees whose jobtitle is 'CAPTAIN'

Answer

Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	TotalPay	TotalPayBenefits
1	NATHANIEL	GM	167411	0	400184	567595	567595
2	GARY	CAPTAIN	155966	245131	137811	538909	538909
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
10	JOANNE	CHIEF	285262	0	17115	302377	302377
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580
ROF	HIT GUPTA@ROHI	T MINGW64 /e/cod	de/linux-	-content (mas	ster)		
\$ 0	wk '/CAPTAIN	{print "TotalPay	y of empl	loyees whose	jobtitile	e is Capta	ain =>"\$7}' data.csv
Tot	calPay of empl	Loyees whose job	titile is	Captain =>5	538909		
Tot	calPay of empl	Loyees whose job	titile is	S Captain =>3	335279		
Tot	calPay of empl	Loyees whose job	titile is	S Captain =>2	297608		
	-	-					

Question

a) Read data file 'data.csv' from command line and extract rows which have 'CAPTAIN' in the column 'jobtitle'

Answer

Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	TotalPay	TotalPayBenefits		
1	NATHANIEL	GM	167411	0	400184	567595	567595		
2	GARY	CAPTAIN	155966	245131	137811	538909	538909		
3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279		
4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343		
5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373		
6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285		
7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981		
8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899		
10	JOANNE	CHIEF	285262	0	17115	302377	302377		
12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608		
13	EDWARD	EXECUTIVE	294580	0	0	294580	294580		
ROI	ROHIT GUPTA@ROHIT MINGW64 /e/code/linux-content (master)								
		{print \$0}' data							
2	GARY	CAPTAIN	155966	245131	137811	538909	538909		
-			000000			225250	005050		

87082

110804

BasePay OvertimePay OtherPay TotalPay TotalPayBenefits

297608

297608

Question b) Extract TotalPay and calculate sum. Print the result on terminal.

99722

CAPTAIN

Answer

Id EmployeeName JobTitle

- iii) Print JobTitle and Overtimepay who has Overtimepay is between 7000 and 10000
- a) Read data file 'data.csv' from command line and extract jobtitle and overtimepay for column value range

Question b) Print the result on terminal.

answer

	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay		TotalPayBenefits
ŀ	1	NATHANIEL	GM	167411	0	400184	567595	567595
	2	GARY	CAPTAIN	155966	245131	137811	538909	538909
	3	ALBERT	CAPTAIN	212739	106088	16452	335279	335279
	4	CHRISTOPHER	MECHANIC	77916	56120	198306	332343	332343
	5	PATRICK	DEPUTYCHIEF	134401	9737	182234	326373	326373
	6	DAVID	ASSTDEPUTY	118602	8601	189082	316285	316285
	7	ALSON	BATTALIONCHIEF	92492	89062	134426	315981	315981
	8	DAVID	DEPUTYDIRECTOR	256576	0	51322	307899	307899
	10	JOANNE	CHIEF	285262	0	17115	302377	302377
	12	PATRICIA	CAPTAIN	99722	87082	110804	297608	297608
	13	EDWARD	EXECUTIVE	294580	0	0	294580	294580

ROHIT GUPTA@ROHIT MINGW64 /e/code/linux-content (master)
\$ awk '\$5 > 7000 && \$5 <10000{print \$3"--"\$5}' data.csv
DEPUTYCHIEF--9737
ASSTDEPUTY--8601

Question

iv) Print average BasePay

a)Read data file 'data.csv' from command line and extract BasePay values and calculate its average b)Print the result on terminal.

Answer

```
BasePay OvertimePay OtherPay TotalPay TotalPayBenefit
Id EmployeeName JobTitle
1
                                                            400184
                                     167411
                                                                                 567595
   NATHANIEL
                  GM
                                                                       567595
   GARY
                  CAPTAIN
                                     155966
                                              245131
                                                            137811
                                                                       538909
                                                                                 538909
3
                                                            16452
                                                                                 335279
   ALBERT
                  CAPTAIN
                                     212739
                                              106088
                                                                       335279
   CHRISTOPHER MECHANIC
                                     77916
                                              56120
                                                            198306
                                                                       332343
                                                                                 332343
5
                                                                                 326373
   PATRICK
                  DEPUTYCHIEF
                                     134401
                                              9737
                                                            182234
                                                                       326373
                                              8601
   DAVID
                  ASSTDEPUTY
                                     118602
                                                            189082
                                                                       316285
                                                                                 316285
                                              89062
   ALSON
                  BATTALIONCHIEF
                                     92492
                                                            134426
                                                                       315981
                                                                                 315981
                                                            51322
                                                                                 307899
   DAVID
                  DEPUTYDIRECTOR
                                     256576
                                              0
                                                                       307899
                                                                       302377
                                                            17115
10 JOANNE
                  CHIEF
                                     285262
                                              0
                                                                                 302377
12 PATRICIA
                  CAPTAIN
                                              87082
                                     99722
                                                            110804
                                                                       297608
                                                                                 297608
                                                                       294580
                                                                                 294580
13 EDWARD
                  EXECUTIVE
                                     294580
ROHIT GUPTA@DESKTOP-PMFMKKV MINGw64 /f/practice/linux-content (master)
$ awk '{print $4}{sum += $4}END{print "average of basepay is = " sum/(NR-1)}' data.csv
BasePay
167411
155966
212739
77916
134401
118602
92492
256576
285262
99722
294580
average of basepay is = 172333
```