CEGEP VANIER COLLEGE
CENTRE FOR CONTINUING EDUCATION
Introduction to Linux
420-995-VA

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Lab Review 8: Shell Programming, Combining awk Program with Decision Logic

1. Create a Shell program *BookDisplay1* that uses *awk* command along with decision logic *if ....else* in order to display the list of books (Figure 1) satisfying the following condition:
   If the price is greater than $100, display the message " It is very expensive" otherwise display the message " It is affordable"

```
samir@linux-ces1:~/Review/Review8> sh BookDisplay1
              List of Books

      Tue Nov 22 23:31:44 EST 2011
==================================================================================================================

 Book ID: 1      Book Author: Stev_Jeff       Book Title: Java_Programming    Book Price: 42.40  , It is affordable
 Book ID: 2      Book Author: Amine_Khan      Book Title: Oracle_Database     Book Price: 252.40 , It is very expensive
 Book ID: 3      Book Author: Eduard_Becker   Book Title: History_of_Art      Book Price: 202.30 , It is very expensive
 Book ID: 4      Book Author: James_Peter     Book Title: PHP_Programming     Book Price: 66.70  , It is affordable
 Book ID: 5      Book Author: Paul_Tremblay   Book Title: Economy_and_Wealth  Book Price: 43.30  , It is affordable
 Book ID: 6      Book Author: Paul_Henry      Book Title: Business_principles      Book Price: 12.60  , It is affordable
samir@linux-ces1:~/Review/Review8>
samir@linux-ces1:~/Review/Review8> cat book
1       Stev_Jeff       Java_Programming      1234987 BG      42.4    4
2       Amine_Khan      Oracle_Database       345675  EX      252.4   1
3       Eduard_Becker   History_of_Art        098766  EX      202.3   5
4       James_Peter     PHP_Programming       765432  MD      66.7    2
5       Paul_Tremblay   Economy_and_Wealth    1209845 BG      43.3    3
6       Paul_Henry      Business_principles   654321  BG      12.6    4
```

Figure 1

2. Create a Shell program *BookDisplay2* that uses *awk* command along with decision logic *if ....else* in order to display the list of books satisfying the following condition:
   If the price is greater than $100, display the message " It is very expensive" otherwise display the message " It is affordable"
   Display at the end the sum of the price of all books, where their price is greater then $100
   Display at the end the sum of the price of all books, where their price is less then $100 as shown in Figure 2.

```
samir@linux-ces1:~/Review/Review8> sh BookDisplay2
              List of Books

      Wed Nov 23 03:28:13 EST 2011
==================================================================================================================

 Book ID: 1      Book Author: Stev_Jeff       Book Title: Java_Programming    Book Price: 42.40  , It is affordable
 Book ID: 2      Book Author: Amine_Khan      Book Title: Oracle_Database     Book Price: 252.40 , It is very expensive
 Book ID: 3      Book Author: Eduard_Becker   Book Title: History_of_Art      Book Price: 202.30 , It is very expensive
 Book ID: 4      Book Author: James_Peter     Book Title: PHP_Programming     Book Price: 66.70  , It is affordable
 Book ID: 5      Book Author: Paul_Tremblay   Book Title: Economy_and_Wealth  Book Price: 43.30  , It is affordable
 Book ID: 6      Book Author: Paul_Henry      Book Title: Business_principles      Book Price: 12.60  , It is affordable
The sum of prices of all books, which are greater than 100 is  454.7
The sum of prices of all books, which are less than 100 is  165
The sum of prices of all books is  619.7
```

Figure 2

3. Create a Shell program *BookDisplay3* that uses *awk* command along with decision logic *if ....else* in order to display the list of books satisfying the following condition:
   If the *b_type* is "BG", display the message "It is Book for beginners"
   Otherwise if the *b_type* is "MD", display the message "It is Book for Intermediary"
   Otherwise if the *b_type* is "EX", display the message "It is Book for Expert"
   Display at the end the sum of the price of all books with respect to their b_type as shown in Figure 3.

```
samir@linux-ces1:~/Review/Review8> sh BookDisplay3
                List of Books

        Wed Nov 23 04:02:28 EST 2011
===========================================================================================================

  Book ID: 1      Book Author: Stev_Jeff      Book Title: Java_Programming   Book Type: BG   Book Price: 42.40  , It is Book for Beginner
  Book ID: 2      Book Author: Amine_Khan      Book Title: Oracle_Database    Book Type: EX   Book Price: 252.40 , It is Book for Expert
  Book ID: 3      Book Author: Eduard_Becker   Book Title: History_of_Art     Book Type: EX   Book Price: 202.30 , It is Book for Expert
  Book ID: 4      Book Author: James_Peter     Book Title: PHP_Programming    Book Type: MD   Book Price: 66.70  , It is Book for Intermediary
  Book ID: 5      Book Author: Paul_Tremblay   Book Title: Economy_and_Wealth Book Type: BG   Book Price: 43.30  , It is Book for Beginner
  Book ID: 6      Book Author: Paul_Henry      Book Title: Business_principles     Book Type: BG   Book Price: 12.60  , It is Book for Beginner
The sum of prices of all Beginner books is  98.3
The sum of prices of all Intermediary books is  66.7
The sum of prices of all Expert books is  454.7
The sum of prices of all books is  619.7
```

Figure 3

4. Create a Shell program *ProductDisplay4* that uses *awk* command along with decision logic *if ....else* in order to display the list of product along with the sum of products with respect to manufactured company as shown in Figure 4.

```
samir@linux-ces1:~/Review/Review8> sh BookDisplay4
                List of All Products

        Thu Nov 24 19:11:46 EST 2011
===========================================================================================================

 Product ID: 1          Product Name: Muffler        Product Price: 450.00   Manufactured By: GENERALMOTOR
 Product ID: 2          Product Name: Shocks         Product Price: 50.45    Manufactured By: TOYOTA
 Product ID: 3          Product Name: Alternator     Product Price: 79.99    Manufactured By: HONDA
 Product ID: 4          Product Name: Battery        Product Price: 29.99    Manufactured By: TOYOTA
 Product ID: 5          Product Name: Radiator       Product Price: 128.32   Manufactured By: FORD
 Product ID: 6          Product Name: Coil           Product Price: 45.99    Manufactured By: FORD
 Product ID: 7          Product Name: Spark-plugs    Product Price: 39.50    Manufactured By: GENERALMOTOR
The sum of product from GENERAL MOTOR is  489.5
The sum of product from TOYOTA is  80.44
The sum of product from FORD is  174.31
The sum of product from HONDA is  79.99
The sum of product from all Manufacturers is  824.24 $
```

```
product
1   Muffler       450 GENERALMOTOR
2   Shocks        50.45   TOYOTA
3   Alternator  79.99   HONDA
4   Battery       29.99   TOYOTA
5   Radiator    128.32  FORD
6   Coil          45.99   FORD
7   Spark-plugs 39.50   GENERALMOTOR
```
Figure 4

5. Create a Shell program *EmployeeDisplay1* that uses *awk* command along with decision logic *if ....else* in order to display the list of employees satisfying the following condition:

    If the *e_salary* is higher than 150000, raise the salary by 30% and display the message " Raise salary by 30%"

    Otherwise if the *e_salary* is between 75000 and 95000, raise the salary by 20% and display the message "Raise salary by 20%"

    Otherwise if the *e_salary* is between 40000 and 70000, raise the salary by 10% and display the message "Raise salary by 10%"

    Display at the end the sum of salaries of all employees.
    Display at the end the sum of expected raise of salaries of all employees as shown in Figure 5.

E_ID	E_Last	E_First	E_Salary
1	Blake	James	150000
2	Lee	Huing	70000
3	Brendon	Jessica	90000
4	Tremblay	Suzan	45000

Employee File

product			
1	Muffler	450	GENERALMOTOR
2	Shocks	50.45	TOYOTA
3	Alternator	79.99	HONDA
4	Battery	29.99	TOYOTA
5	Radiator	128.32	FORD
6	Coil	45.99	FORD
7	Spark-plugs	39.50	GENERALMOTOR

Product File

```
samir@linux-ces1:~/Review/Review8> sh EmployeeDisplay1
                List of All Employees


        Thu Nov 24 17:58:38 EST 2011
============================================================================================================

 Employee ID: 1        Employee Name: Blake        Employee Salary: 150000.00, Raise salary by 30%: 195000 $

 Employee ID: 2        Employee Name: Lee          Employee Salary: 70000.00 , Raise salary by 10%: 77000 $

 Employee ID: 3        Employee Name: Brendon      Employee Salary: 90000.00 , Raise salary by 20%: 108000 $

 Employee ID: 4        Employee Name: Tremblay     Employee Salary: 45000.00 , Raise salary by 10%: 49500 $

The sum of salaries of all employees is  355000 $
The sum of Expected raise of salaries of all employees is  429500 $
The Expected Raise of Salarial Mass is evaluated to  74500 $
```

Figure 5