1. Allow the user to enter a principle amount and interest rate repeatedly (need a loop to control the program execution). Compute the annual interest (principle x rate). Compute ending balance to be principle (beginning balance + interest). Display year, beginning balance and ending balance for each of the 5 years. Display the accumulated interest for the 5 years. Note: the new balance by year (this will be the principle for the following year. Format the output.

Example:

Enter principle amount: 10000.00

Enter interest rate: 0.10

Year Beginning Ending

Balance Balance

1. $10,000.00 $11,000.00
2. $11,000.00 $12,100.00
3. $12,100.00 $13,310.00
4. $13,310.00 $14,641.00
5. $14,641.00 $16,105.00

Total interest earned: $6,156.00

|  |  |  |
| --- | --- | --- |
| INPUT | PROCESSING | OUTPUT |
| Principle | For c <= 5 |  |
| rate | interest = principle | Year, beg bal, end bal |
|  | Endingbal = principle + interest |  |
|  |  |  |

1. Fibonacci sequence is a sequence of natural order. The sequence is:

1, 1, 2, 3, 5, 8 etc

Use of for loop compute and display first 20 numbers in the sequence. Hint: start with 1 , 1.

1. Create a text file that contains employee last name and salary. Read in this data. Determine the bonus rate based on the chart below. Use that rate to compute bonus. For each line display the employee last name, salary and bonus. After the loop display the sum of all bonuses paid out.

Salary Bonus Rate

100,000.00 and up 20%

50,000.00 15%

All other salaries 10%

Example file (create your own data with at least 5 lines:

Adams

50000.00

Baker

75000.00

Smith

45000.0

Etc

|  |  |  |
| --- | --- | --- |
| INPUT | PROCESSING | OUTPUT |
| C = 0  Sum = 0 | While loop  If salary>100000 rate = 0.2  Salary > 50000 rate = 0.15  Else rate = 0.1  Last name  Salary  Bonus | Total bonuses |
| Last name  salary | Bonus = salary \*rate |  |
|  |  |  |

1. Create a text file with item, quantity and price. Read through the file one line at a time. Compute the extended price (quantity x price). For each line display the item, quantity, price and extended price. After the loop display the sum of all the extended prices, the count of the number of orders and the average order.

Example Data File

Widget

10

50

Hammer

2

10

Saw

4

8

Etc

|  |  |  |
| --- | --- | --- |
| INPUT | PROCESSING | OUTPUT |
| Item | C = 0  Ttlextprice = 0 |  |
| Qnty | Get item  While I !=””  Get qty,price  Extprice = qnty\*price  C = c +1  Ttlextprice = ttlextprice + extprice  Print item, qty,price,extprice  Get next item | Item  Qnty  Price  extprice |
| price | Avg = ttlextprice/C | C  Ttlextprice  avg |

1. Create a text file with student last name, district code (I or O) and number of credits taken. Compute tuition owed (credits taken x cost per credit). Cost per credit for in district students (district code I) is 250.00. Out of district students pay 500.00 per credit. For each line display student last name, credits taken and tuition owed. After the loop display sum of all tuition owed and the number of students.

|  |  |  |
| --- | --- | --- |
| INPUT | PROCESSING | OUTPUT |
| lastname | C = 0  totaltuition = 0 |  |
| code | Get lastname  While I !=””  Get code,no of credits  If code = I  Costper credit= 250.00  Else costpercredit = 500  tuition = costpercredit\*noofcredits  C = c +1  Totaltuition = totaltuition + tuition  Print lastname, noofcredits, tution  Get next item | Last name  Noofcredits  tution |
| noofcredits |  | Totaltuition  No of students |