Helper file for chapter 3 – Selection structure
CIT133   Beginning C++

1. **See the file ch3_Q1.cpp for a sample solution**
Write a program to ask the user for an employee's ID number, first name, last name, regular and overtime hours worked and the hourly pay rate. Calculate employee's gross pay and net pay. Note that overtime pay is 1.5 times the regular pay. Net pay is gross pay minus deductions. Assume that deductions are taken for tax withholding at 30% of gross pay and that parking costs $10. The tax rate and parking cost must be defined as named constants. **Display** the output (employee information entered and all calculated values) on the screen. Format the output, so it looks "good". Also, ask the user for the name of an output file. **Write the same data that you displayed on the screen to the output file.** Make sure to use the manipulators discussed in chapter 3. Make sure that all monetary values are displayed with 2 digits after the decimal point and dollars signs are inserted where appropriate. Whole numbers must not have a decimal point in the output. The following example calculations should help with the formulas.
Test case 1 for calculations:
Regular hours = 40
Overtime hours = 10
Pay rate = $20
Gross pay = 40*20 + (10*20*1.5) = $1100
Net Pay = 1100 – (1100*.3) – 10 = $760

Test case 2 for calculations:
Regular hours = 30
Overtime hours = 0
Pay rate = $20
Gross pay = 30*20 + (0*20*1.5) = $600
Net Pay = 600 – (600*.3) – 10 = $410

2. **See the file ch3_Q2.cpp for a sample solution**. Interest on a credit card's unpaid balance is calculated using the average daily balance. Suppose that **netBalanace** is your balance, **payment** is the payment made, **d1** is the number of days in the billing cycle, and **d2** is the number of days payment is made before the billing cycle. The monthly interest rate is **monthlyInterestRate**. Then, the average daily balance is calculated as:

averageDailyBalance = (netBalance * d1 – payment * d2) / d1
interest = averageDailyBalance * monthlyInterestRate

Write a program that prompts the user to input the required data (**netBalanace**, **payment**, **d1**, **d2**, and **monthlyInterestRate (entered as a whole number, i.e. 2%)**. Calculate and display the averageDailyBalance and interest. Format the output appropriately. Format the output to 2 decimal places.

We also want to be able to read the same data from a data file. Open Notepad (or any text editor) and type 5 numbers, representing the data was entered by the user. The first number is the **netBalanace**, the second is **payment**, the third is **d1**, the fourth is **d2** and the fifth number is **monthlyInterestRate**. Save this file on your system as: **data.txt.** Add additional code to read the data from the file and calculate and display the **averageDailyBalance** and the **interest**. Note that we ARE NOT using a loop to read data because we only have one set of data in the file. Loops are covered in a later chapter. **Turn in your data,txt dat file.**

Possible test case:
netBalance = $1000
payment = $35
d1 = 31
d2 = 10
monthlyInterestRate = 2
averageDailyBalance = (1000 * 31 – 35*10) / 31 = 988.71
interest = 988.71 * 2/100 = 19.77