

**ENGINEERING H192**  
**DAILY ASSIGNMENT B05**

**A.** Design a program that calculates how much money a teenager can make at a full-time summer job, based on a 40-hour workweek and a fixed hourly wage. Write a **complete C** program to:

- (1) Prompt the user to input his or her hourly wage
- (2) Read the user's response
- (3) Compute the user's gross earnings per week and over the 12-week summer
- (4) Print the results in the Linux command window in the form:

**At \$xx.xx per hour, you will gross \$yyy.yy per week and \$zzzz.zz over the summer.**

where **xx.xx** is the value read in from the user and **yyy.yy** and **zzzz.zz** are computed values.

The following **C** statements may be used to input the hourly wage:

```
printf ("\n\nEnter hourly wage: ");  
scanf ("%f", &fHourly);
```

and the following **C** statement may be used to print the calculated gross earnings:

```
printf ("At $%.2f per hour, you will gross $%.2f per week and  
$%.2f over the summer.\n\n", fHourly, fWeekly, fTotal);
```

where **fHourly**, **fWeekly** and **fTotal** are real (i.e., **float**) variables.

Save your program as **b05.cpp**. Test your program by compiling, linking, and running it. When it is working correctly, print the source code file, **b05.cpp**, on the printer and submit it with this sheet.

**B.** The teenager, looking to create a solid financial cushion for the future, decides to invest the gross sum of money generated over the summer into a mutual fund that averages 6% interest per year. The growth of the fund can be modeled by the equation:

$$\text{Value of Account} = (\text{Initial Investment}) * (1 + i)^n$$

where **n** is the number of years and **i** is the yearly interest rate (in decimal form, not percent).

Modify the program to additionally prompt the user to input the number of years he or she plans to keep the money invested. Using the above equation, the program must calculate and print the value of the account after **n** years. As a reminder, you will have to **#include <math.h>** to use the **pow(a,b)** function.

Save your modified program as **b05mod.cpp**. When it is working correctly print the file **b05mod.cpp** and include it along with **b05.cpp** and this sheet.

Name \_\_\_\_\_ Instructor \_\_\_\_\_ Seat \_\_\_\_\_ Hour \_\_\_\_\_