For this project, you will write a MIPS assembly language program to calculate periodically compounding interest. Your program should prompt the user to enter the necessary parameters for the calculation and continue to loop until the user opts to quit. The equation for periodically compounding interest is $b = p(1 + r)^t$, where b is the balance after the end of t applications of interest, p is the principal (starting balance) and r is the interest rate. Since MIPS does not have a power function, you will need to build one by iteratively multiplying the sum t times.

This computation would normally require the use of floating-point variables and operations. However, the necessary precision can also be obtained by representing the money in integer units of pennies and by making the interest rate in terms of percentage. Once the correct number has been calculated, the correct magnitude can be calculated by dividing by 100^t to get the balance in pennies. From this point, the division and modulus operations can be used to convert the answer to its standard format.

Your program should include appropriate comments indicating what the code should be doing and what registers are being used for. After displaying the results, your program should exit cleanly. Your programs should be turned in through HuskyCT before class starts on the due date. You should test your programs using the SPIM simulator to ensure their functionality before submitting them.

Example output:

```
Enter the principal:  $10000
Enter the interest rate:  5
Enter the amount of time:  3
The ending balance is $11576.25

Enter the principal or 0 to quit:  $50000
Enter the interest rate:  7
Enter the amount of time:  5
The ending balance is $70127.58

Enter the principal or 0 to quit:  0
```

Objectives:

1. To introduce the SPIM simulator for the MIPS assembly language.
2. To introduce and practice writing MIPS assembly language programs.

Point Values:
Total.   40 pts