1. Any year is entered through the keyboard. Write a function to determine whether the year is a leap year or not.
2. Write a function to calculate the factorial value of any integer entered through the keyboard.
3. Write a function that receives 5 integers and returns the sum, average and standard deviation of these numbers.
4. Write a function that receives marks received by a student in 3 subjects and returns the average and percentage of these marks.
5. A 5-digit positive integer is entered through the keyboard, write a function to calculate sum of digits of the 5-digit number:
6. A positive integer is entered through the keyboard, write a function to find the binary equivalent
7. Write a function to find the binary equivalent of a given decimal integer and display it.

Projects:

1. Prepare a payroll earnings statement for the sales force at the Arctic Ice Company. All of Arctic’s employees are on a straight commission basis of 12.5% sales.

Each Month, they receive a bonus that varies depending on the profit for the month and their length of service. The sales manager calculates the bonus separately and enters it with the salesperson’s total sales for the month. Your program is also to calculate the withholding taxes and retirement for the month based on the following rates.

1. 25% Federal(Central) withholding
2. 10% State withholding
3. 8% Retirement plan.

Use the test data shown below to test the program:

|  |  |  |
| --- | --- | --- |
| Salesperson | sales | Bonus |
| 1 | 53,500 | 425 |
| 2 | 41,300 | 300 |
| 3 | 56,800 | 350 |
| 4 | 36,200 | 175 |
|  |  |  |
|  |  |  |
|  |  |  |

1. Write a program that, given a beginning balance in your savings account. Calculate the balance at the end of 1 year. The interest rate is 5.3% compounded quarterly. Show the interest earned and balace at the end of each quarter. Present the data in tabular columns with appropriate headings. Use separate functions to compute the interest and print the balance.
2. The formula for converting centigrade temperatures to Fahrenheit is

F = 32 + C(180.0/100)

Write a program that asks the user to enter a temperature reading in centigrade and then prints the equivalent Fahrenheit value. It then asks the user to enter a Fahrenheit value and prints the equivalent centigrade value. Run the program several times. Be sure to include at least one negative temperature reading in your test cases. Provide separate functions as needed by your design. One possible design is shown below.