Conditional Statements

Purpose:

In this worksheet, you will familiarize yourself with conditional statements, in particular you will exercise if-statements, and if-else statements.

Tasks:

a. Write a C++ program that takes an integer as an input and determines whether it is positive, negative or zero using only if statements.

    Sample run:

    Enter an integer: 5

    5 is a positive integer

b. Write a C++ program that takes an integer as an input and determines whether it is positive, negative or zero using if…else statements.

    Sample run:

    Enter an integer: -5

    -5 is a negative integer

c. Write a C++ program that takes the speed of a car (in km/h) as an integer input and determines whether the car is going very slowly, slowly, medium speed, fast speed or very fast speed. Use the speed intervals below (Use if…else statements):

    i.   Speed > 10, Very slow
    ii. Speed > 30, Slow
    iii. Speed > 50, Medium
    iv. Speed > 70, Fast
    v.   Speed > 90, Very fast

    Sample run:

    Enter speed: 120

    Very fast!

d. Write a C++ program that gets two integers x and y as inputs and computes and displays the value of f using the given equation. Then, according to the given table below, your program should print an appropriate message.

$$f = x^2 + y^2 + xy$$

f	message
> 10	Greater than 10
5 - 10	Between 5 and 10
≤ 5	Less than or equal to 5

e. Write a C++ program that computes and displays a person's weekly salary as determined by the following specification "If the hours worked are less than or equal to 40, the person receives $8 per hour; else the person receives $320 plus $12 for each hour worked over 40 hours". The program should request the hours worked as input and should display the salary as output. A sample run would be as follows:

```
Please enter the hours worked: 20
Your salary is: 160 Dollars
```

Another sample run:

```
Please enter the hours worked: 60
Your salary is: 560 Dollars
```

f. The following table shows how the monthly income of a salesperson can be calculated.

Monthly Sales	Income
>=50,000	$575+16% of sales
<50,000 but >=40,000	$550+14% of sales
<40,000 but >=30,000	$525+12% of sales
<30,000 but >=20,000	$500+9% of sales
<20,000 but >=10,000	$450+5% of sales
<10,000	$400+3% of sales

Write a C++ program that takes the monthly sales from the user and displays their income.

g. Write a C++ program that takes a date in month/day/year format and then displays the date in "legal" form. For example,

```
Enter date (dd/mm/yy): 19/07/14

July 19, 2014.
```