



## CSE122 Computer Programming

### Sheet 2 (Decisions)

1) Find the value of x for each of the following program segments

```
int x = 2;
if (x >= 0)
    x++;
else if (x >= 1)
    x += 10;
cout << x;
x = 2;
if (x >= 0)
    x++;
if (x >= 1)
    x += 10;
cout << x;
```

2) What is the value which assigned to x when y=12.0 and y=5.0

```
float x = 25.0, y;
cin >> y;
if (y != (x - 10.0))
    x = x - 10.0;
else
    x = x / 2.0;
cout << "x=" << x << ",y=" << y << endl;
x = 25.0;
cin >> y;
if (y < 12.0)
{
    if (y >= 0.0)
        x = 5 * y;
    else
        x = 2 * y;
}
else
    x = 3 * y;
cout << x << ",y=" << y << endl;
```

3) Write a program to determine whether an integer is even or odd.

4) What is y after the following switch statement is executed?

```
x = 3;
y = 3;
switch(x+3)
{
    case 6: y = 1;
    default: y += 1;
}
```

5) Use a switch statement to rewrite the following if statement

```
if(a==1)
    x += 5;
else if(a==2)
    x += 10;
else if(a==3)
    x += 16;
else if(a==4)
    x += 34;
```

6) Write a program that will sort 3 integers. The integers are entered from the keyboard and sorted in variables num1, num2, and num3 respectively. The program sorts the numbers so that  $\text{num1} \leq \text{num2} \leq \text{num3}$ .

7) You have just started a sales job in a department store. Your pay consists of a base salary and a commission. The base salary is \$5,000.

The following scheme is used to determine the commission rate:

Sales Amount	Commission Rate
From \$1 to \$5,000	8%
From \$5,001 to \$10,000	10%
\$10,001 and above	12%

Your goal is to earn \$80,000 in a year. Write a program that will find out the minimum amount of sales you have to generate in order to make \$80,000.

8) Write a program that prompts the user for two numbers  $x$ ,  $y$  and a choice  $c$  to select between:

1-Addition 2- Subtraction 3- Multiplication 4-Division

5-Average 6-Maximum 7-Minimum

9) Write a program that prompts the user for choosing a shape to compute its area and perimeter:

- a) If the user enters a choice (1) then he is asked to enter the Length and width of a rectangle.
- b) If the user enters a choice (2) then he is asked to enter the side length of a square.
- c) If the user enters a choice (3) then he is asked to enter the radius of a circle.