Pre-lab questions:

1. You will ask the user to input a number. Your program will judge if the number is even or odd and the judgment will be shown to the user.

2. There is a piecewise function:

$$F(x,y)=\begin{cases}0 & \text{if } x<0 \text{ and } y<0\\ xy & \text{if } 0\le x\le 1 \text{ and } 0\le y\le 1\\ x & \text{if } 0\le x\le 1 \text{ and } y>1\\ y & \text{if } 0\le y\le 1 \text{ and } x>1\\ 1 & \text{if } x>1 \text{ and } y>1\end{cases}$$

You will ask the user to input the values of *x* and *y*. Based on the inputs, the F(x,y) value will be calculated and shown to the user. Please write a C program realizing this. You are encouraged to use a flowchart and pseudocode.

3. Explain the following program and predict the output.

```c
#include <stdio.h>
int main()
{
     int i=2;
     switch (i)
     {
          case 1:
             printf("Case1 ");
             break;
          case 2:
             printf("Case2 ");
             break;
          case 3:
             printf("Case3 ");
             break;
          case 4:
             printf("Case4 ");
             break;
          default:
             printf("Default ");
     }
     return 0;
}
```

You may run the program in your C programming environment and check if your prediction is correct or not.

Remove some and all ‘break’ in the program. Predict and verify the output.