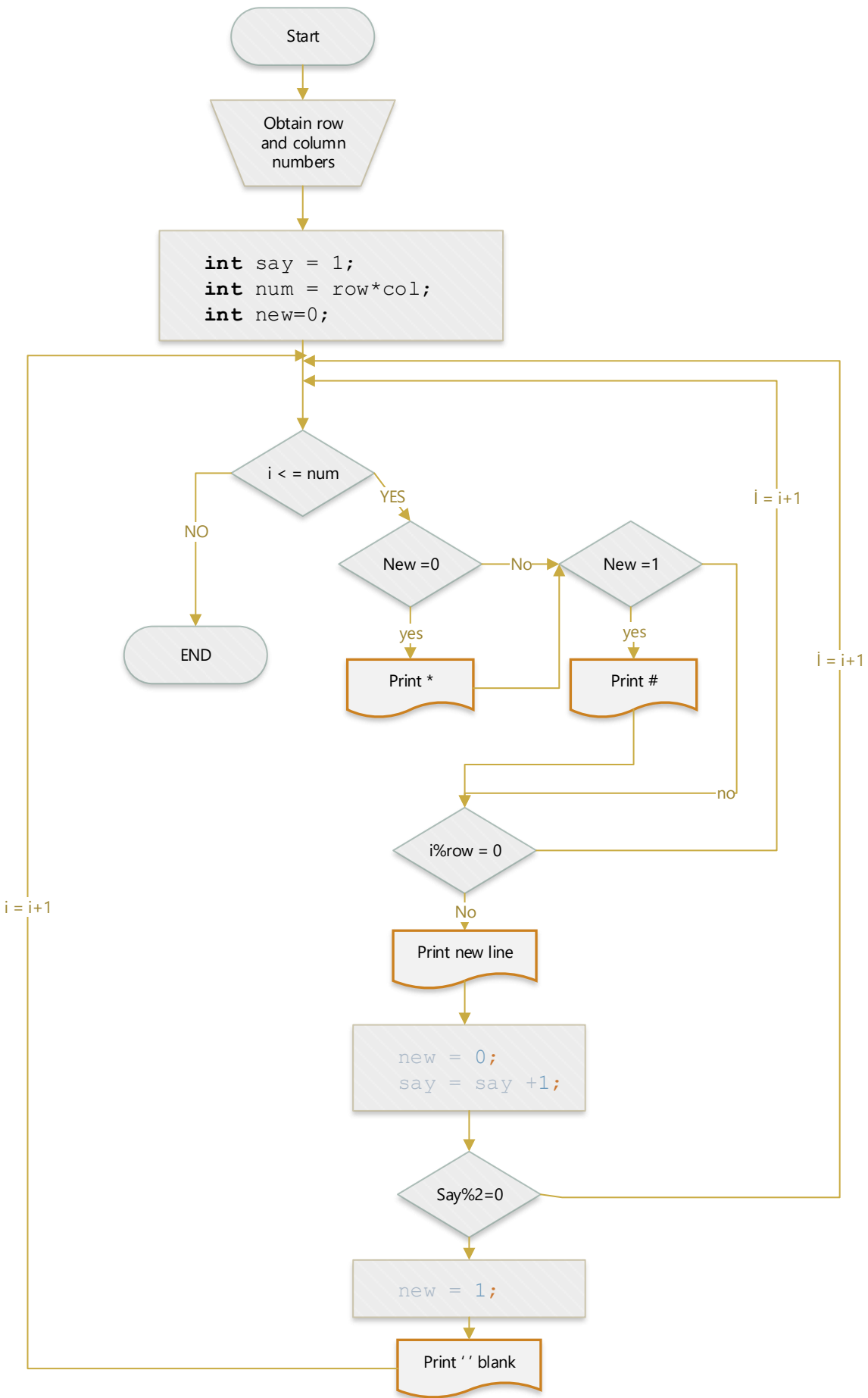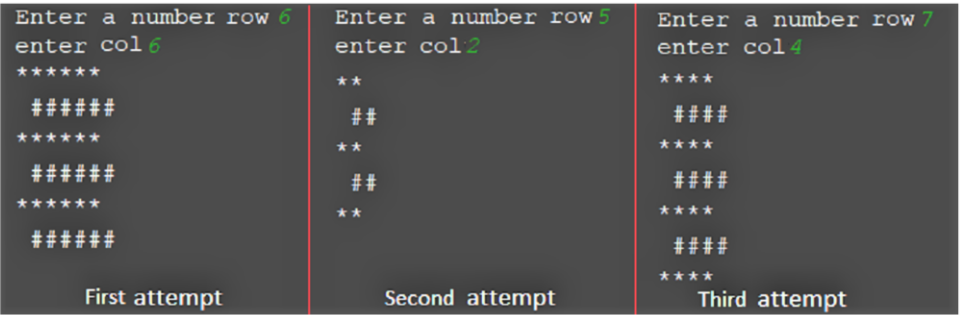EED1005 Introduction to Programming
Laboratory Quiz 2

November 2, 2018

1. a) Write flowchart for algorithm that prints the characters # and * in form of given screenshots.

- You can use only loop, **IF**, and **ELSE** statements. Do not use nested loop.
- Use only *printf("#")*, *printf("*")*, *printf("\n")*, and *printf(" ")*. These statements are able to be used only once in the whole code.

Flowchart:

Start

Obtain row and column numbers

```
int say = 1;
int num = row*col;
int new=0;
```

i < num
- NO → END
- YES → New =0
  - No → New =1
    - yes → Print #
  - yes → Print *

i%row = 0
- No → Print new line
- no

```
new = 0;
say = say +1;
```

Say%2=0

```
new = 1;
```

Print ' ' blank

i = i+1

Code:

```c
#include <stdio.h>

int main() {

    int col, row; /* column counter */

    printf("Enter a number row: ");
    scanf("%d", &col);
    printf("enter column:");
    scanf("%d",&row);
    int say = 1;
    int num = row*col;
    int new=0;

    for ( int i = 1; i <= num; i++ ) {
        if(new == 0){printf("*");}
        if(new == 1) {printf("#");}
        if(i%row==0){
            printf("\n");
            new = 0;
            say = say +1;
            if(say%2==0){
                new = 1;
                printf(" ");
            }
        }

    }

    return 0; /* indicate successful termination */
} /* end main */
```