

Lab 09
PF – BSDS

Note 1: Kindly do your work, talking, sharing, and discussing is considered cheating (in any case) and strictly discouraged); therefore, be careful. TAs will be there for your help. Wait for TA if you have any queries.

Note 2: It is preferred to use for loop; however, you may use while loop.

Note 3: Pattern are not fixed, so write code to adjust pattern according to input

Task 1: Print following patterns, each in different programs: (For each pattern take input from user and generate pattern according to the input value). You may attempt these patterns in any order but try to keep file name relevant to each part.

a. Sample Runs:

Rows: 5

```
A 1 B 1 2 C 1 2 3 D 1 2 3 4 E 1 2 3 4 5
F 1 G 1 2 H 1 2 3 I 1 2 3 4 J 1 2 3 4 5
K 1 L 1 2 M 1 2 3 N 1 2 3 4 O 1 2 3 4 5
P 1 Q 1 2 R 1 2 3 S 1 2 3 4 T 1 2 3 4 5
U 1 V 1 2 W 1 2 3 X 1 2 3 4 Y 1 2 3 4 5
```

Rows: 3

```
A 1 B 1 2 C 1 2 3
D 1 E 1 2 F 1 2 3
G 1 H 1 2 I 1 2 3
```

b. Sample Runs:

N: 5

```
*       *       *
*       * *       *
*       * * *       *
* *       * * *
*       *       *
```

N: 4

```
*       *       *
*       * * *       *
* *       * *
*       *
```

Hint: You may handle first and last line separately, because intermediate lines

c.

Rows: 4

```
|_   _|
|_   _|
|_   _|
|_   _|
```

Rows: 3

```
|_   _|
|_   _|
|_   _|
```

d. Rows: 5

```
1
212
32123
4321234
543212345
```

e. Rows: 3

Column 6

$$1+2+3+4+5+6=21$$

$$1+3+5+7+9+11=36$$

$$1+4+7+10+13+16=51$$