

1. Get the values from the user and store it in 3*3 matrix. Display the matrix.

Sample Output:

1 2 3

4 5 6

7 8 9

```
#include <stdio.h>
```

```
int main() {
    int matrix[3][3];

    // Get values from the user
    printf("Enter values for a 3x3 matrix:\n");
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            printf("Enter value for matrix[%d][%d]: ", i, j);
            scanf("%d", &matrix[i][j]);
        }
    }

    // Display the matrix
    printf("\nMatrix:\n");
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            printf("%d ", matrix[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

2. Write a program to get the output

Input: a1b10

Output: abbbbbbbbbb

Input: b3c6d15

Output: bbbccccccdddddcccccccccccc

```
#include <stdio.h>
```

```
void expandString(char *input) {  
    while (*input) {  
        // Read a character  
        char character = *input++;  
  
        // Read the number (if any)  
        int count = 0;  
        while (*input >= '0' && *input <= '9') {  
            count = count * 10 + (*input - '0');  
            input++;  
        }  
  
        // Repeat the character count times  
        for (int i = 0; i < count; i++) {  
            printf("%c", character);  
        }  
    }  
    printf("\n");  
}
```

```
int main() {  
    char input1[] = "a1b10";  
    char input2[] = "b3c6d15";  
  
    printf("Input: %s\nOutput: ", input1);  
    expandString(input1);  
  
    printf("Input: %s\nOutput: ", input2);  
    expandString(input2);  
  
    return 0;  
}
```

3. Print the pattern without using arrays.

★

				1
			2	4
		3	5	7
	6	8	10	12
9	11	13	15	17

```
#include <stdio.h>
```

```
int main() {
```

```
    int rows = 5; // You can adjust the number of rows as needed
```

```
    // Outer loop for rows
```

```
    for (int i = 1; i <= rows; i++) {
```

```
        // Inner loop for columns
```

```
        for (int j = 1; j <= i; j++) {
```

```
            printf("* ");
```

```
        }
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```