1 . 2. Write a program to get the output

Input: a1b10
Output: abbbbbbbbb

Input: b3c6d15
Output: bbbccccccddddddddddddddd

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

void printString(char inputString[50],char prev_alp,int num)
{
        int i,j;
        for(i = 0; i<strlen(inputString) ; i++)
        {
        if((inputString[i] >= 65 && inputString[i]<=90) || (inputString[i] >= 97 && inputString[i]<=122))
        {
        if(prev_alp != 0)
        {
        for(j = 0;j<num;j++)
        {
        printf("%c",prev_alp);
        }
        num = 0;
        }
        prev_alp = inputString[i];
        }
        else if(inputString[i] >= 48 && inputString[i]<=57)
        {
        num = num*10+inputString[i]-48;
        }
        if(inputString[i+1] == '\0')
        {
            for(j = 0;j<num;j++)
```

```
            {
                printf("%c",prev_alp);
            }
        }
        }

}
int main()
{
        char inputString[50];
        char prev_alp = 0;
        int num = 0;
        printf("Enter the string:");
        scanf("%s",&inputString);
        printString(inputString,prev_alp,num);
        return 0;
}
```

```
Enter the input:
a1b2c5
abbccccc
--------------------------------
Process exited after 4.474 seconds with return value 0
Press any key to continue . . .
```

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

```
#include<stdio.h>
void displayMatrix(int row,int column,int arr[row][column])
{
        int i,j;
        for(i=0;i<row;i++)
        {
                for(j=0;j<column;j++)
                {
                        printf("%d  ",arr[i][j]);
                }
```

```
                printf("\n");
        }
}
int main()
{
        int row,column,i,j;
        printf("Enter the no of rows:");
        scanf("%d",&row);
        printf("Enter the no of column:");
        scanf("%d",&column);
        int arr[row][column];
        for(i=0;i<row;i++)
        {
                for(j=0;j<column;j++)
                {
                        printf("Enter the value for arr[%d][%d]:",i,j);
                        scanf("%d",&arr[i][j]);
                }
        }
        displayMatrix(row,column,arr);
        return 0;

}
```

```
Enter the no of rows:3
Enter the no of column:3
Enter the value for arr[0][0]:1
Enter the value for arr[0][1]:2
Enter the value for arr[0][2]:3
Enter the value for arr[1][0]:4
Enter the value for arr[1][1]:5
Enter the value for arr[1][2]:6
Enter the value for arr[2][0]:7
Enter the value for arr[2][1]:8
Enter the value for arr[2][2]:9
1  2  3
4  5  6
7  8  9
```

3 . Without using array Print the pattern

```
#include <stdio.h>
int main() {
    int rows, i, j, num;
    printf("Enter the number of rows: ");
    scanf("%d", &rows);
    for (i = 1; i <= rows; i++) {

        for (j = 1; j <= rows - i; j++) {
            printf("   ");
        }

        num = i ;
        for (j = 1; j <= i; j++) {
            printf("%-3d", num);
            num += 2;

        }
      printf("\n");
    }
  return 0;
}
```

```
Enter the number of rows: 5
            1
         2  4
      3  5  7
   4  6  8  10
5  7  9  11 13

--------------------------------
Process exited after 2.13 seconds with return value 0
Press any key to continue . . .
```