

T.C SAKARYA ÜNİVERSİTESİ

BİLGİSAYAR VE BİLİŞİM BİLİMLERİ FAKÜLTESİ

BİLGİSAYAR MÜHENDİSLİĞİ

PROGRAMLAMAYA GİRİŞ DERSİ 1.ÖDEVİ RAPOR DOSYASI

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Star Pattern Program

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

This pattern above is our output example. I need to use loops for which row and column will be star and which column and row will be space.

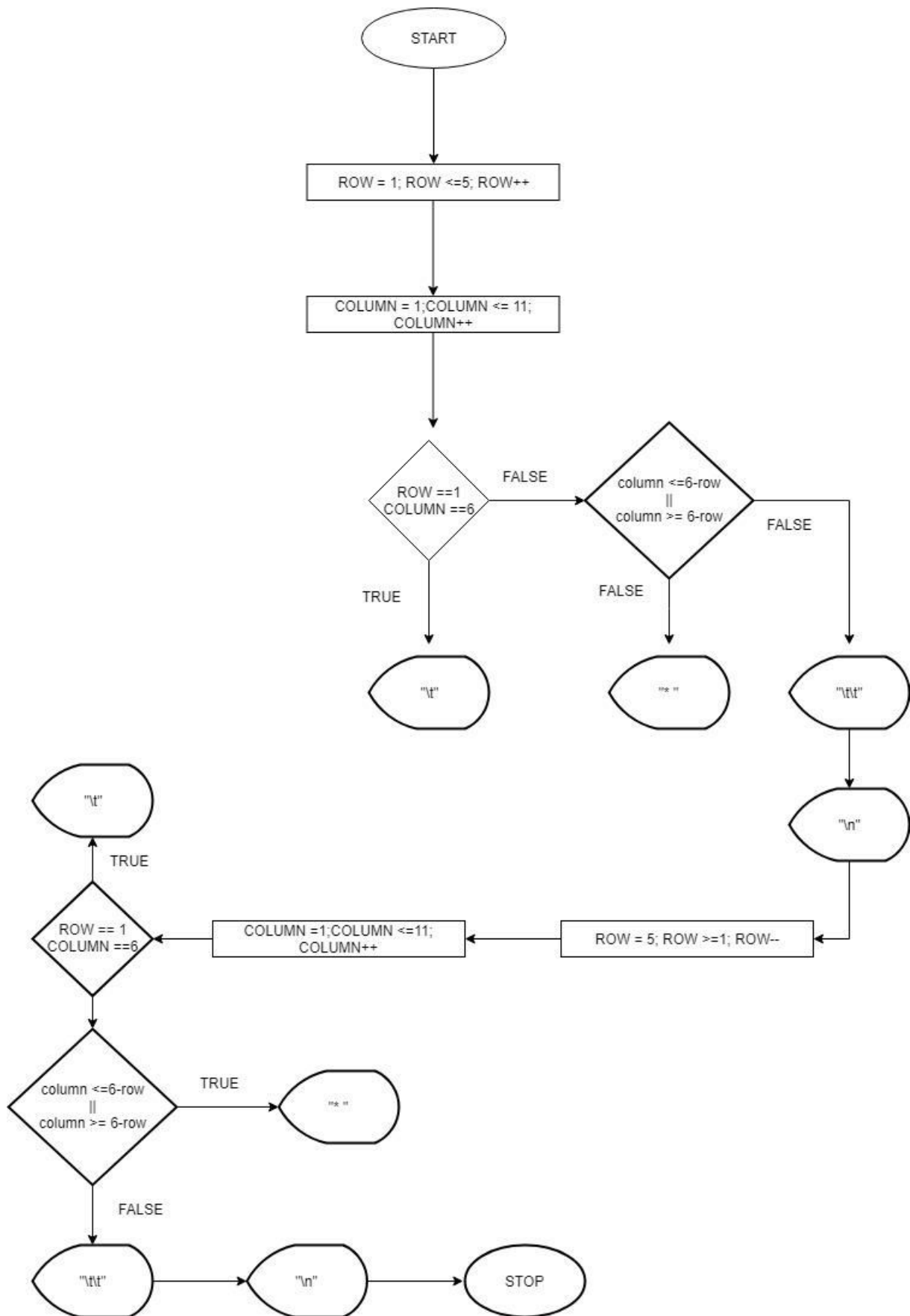
First, I need variables to define rows and columns to the compiler. These variables are integers so I've defined int type integers.

Then "For" loop for row range and I defined that rows are going to increase by one.

After that "for" loop for column range and we also defining columns are going to increase one by one.

I used "if" to decide where will be star. "Else if" for where isn't star will be space.

Finally when program is executed, the pattern will be output of the program.



PSEUDO CODE

START

int row; int column

For (row = 1; row <=5;row++){

for (column = 1; column <=12; column++){

if (row ==1; column == 6;)

will be printed " "

else if (column <= 6 - row; column >= 6 + row)

will be printed "* "

else

will be printed " "

new line

For (row = 5; row >=1;row--){

for (column = 1; column <=12; column++){

if (row ==1; column == 6;)

will be printed " "

else if (column <= 6 - row; column >= 6 + row)

will be printed "* "

else

will be printed " "

STOP

MY CODES FOR THE PROGRAM

```
#include <iostream> //For including in-out library.

using namespace std;

int main()
{
    int row, column; //This variables are declaring for row and column.

    for (row = 1; row <= 5; row++) //For loop for row range.
    {
        for (column = 1; column <= 11; column++) //For loop for column range.
        {
            if (row == 1, column == 6) // If for we want space at row 1 column 6.
                cout << " ";

            else if (column <= 6 - row || column >= 6 + row) // For output of "*"
for between right and left of 6.th column decreasin by one.
                cout << "* ";
            else // space for where there is no "*".
                cout << " ";

        }
        cout << "\n";
    }
    cout << endl;

    for (row = 5; row >= 1; row--) //For range of the rows.
    {
        for (column = 1; column <= 11; column++) //For range of columns.
        {
            if (row == 1, column == 6) //For space at First row and Sixth column.
                cout << " ";

            else if (column <= 6 - row || column >= 6 + row) //For output of "*"
for between right and left of 6.th column increasing by one.
                cout << "* ";
            else // space for where there is no "*".
                cout << " ";

        }
        cout << "\n";
    }

    system("pause");
    return 0;
}
```

LIST OF VOWEL INPUT PROGRAM

H	TS	1	2	3	4	5	6
a	5	a	a	a	a	a	a
e	3	e	e	e			
o	4	o	o	o	o		

The sample of output that wants from us above. The program is getting the phrase that user types until pressing enter and hold the vowels and count them then gives an output of how much vowel that user types.

First I've defined a char type variable for selecting the vowels from users phrase. Then I've defined integer type variable for every vowel. Then I used "While" for starting the loop.

I have used "_getch()" to get a character from users input. And I used "if"'s for if that character is a vowel, That vowel will be increasing by one.

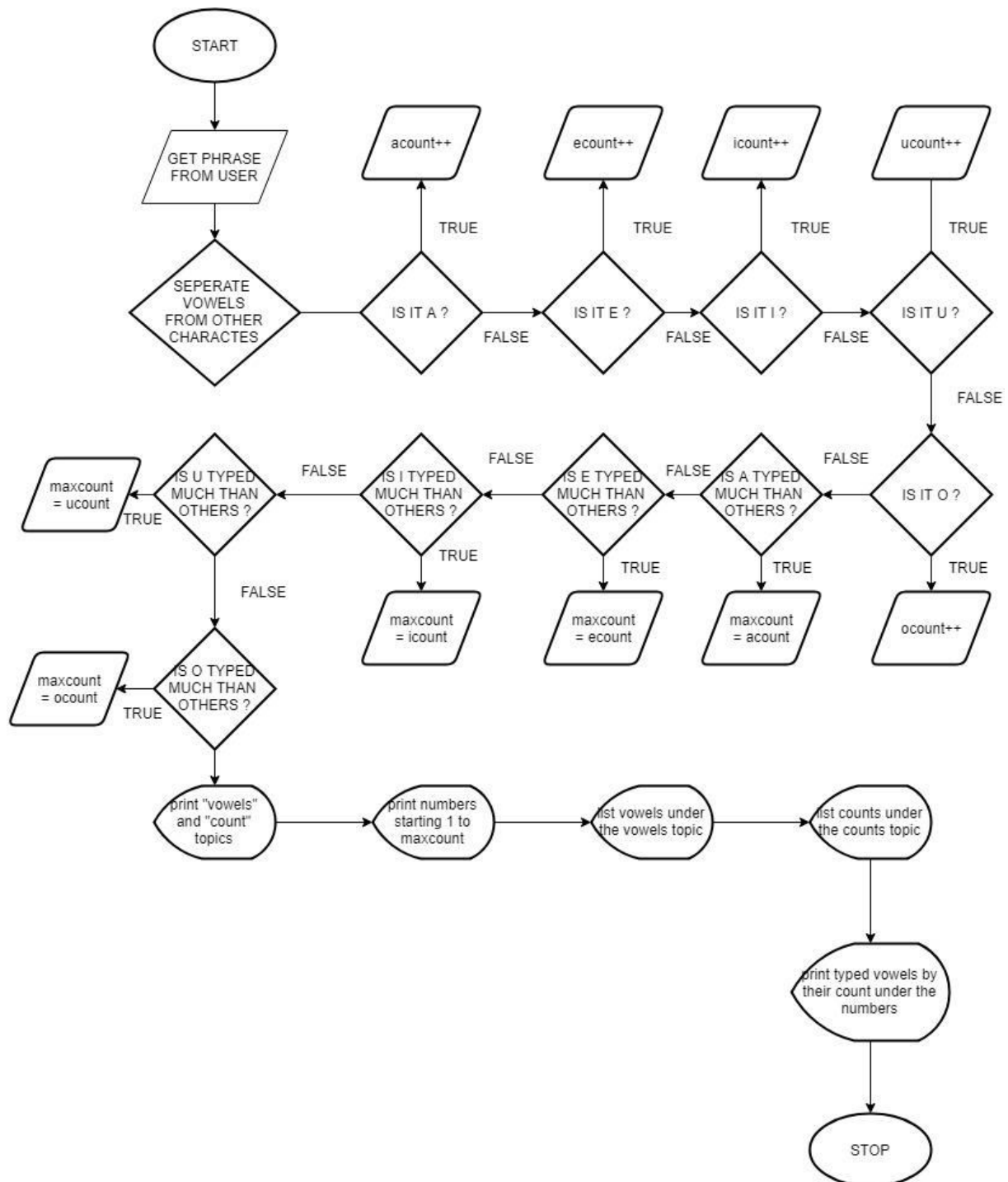
Then I compared the counters with "if"'s to find the maximum count.

We will use maximum count for the printing the numbers for the graphic.

Finally a graphic for listing how many vowel user types. One column for Vowels and one column for how many of them. I used "setw()" for

setting the arange between columns. Rows are showing the vowels and their input number. And the other part of graphic is Show us the maximum count.

And the program print number 1 to maximum count. Under that it prints vowels by the user's input value.



MY CODES FOR THE PROGRAM

```
#include "iostream" //To include in-out library.
#include "conio.h" //For including the _getch().
#include "iomanip" //For including setw.

using namespace std;

int main()
{
    char ch = 'x'; //This x character will hold users input data.

    int account = 0; //This values are vowels.They will increase by user's typing.

    int ecount = 0;

    int icount = 0;

    int ocount = 0;

    int ucount = 0;

    int maxcount;

    cout << "Enter a phrase: ";

    while (ch != '\r') //User types until pressing enter button.
    {
        ch = _getche(); //To get character from users input.

        if (ch == 'a' || ch == 'A') //This will count how many a that user types.
        {
            account++;
        }

        if (ch == 'e' || ch == 'E') //This will be count how many e that user
going to type.
        {
            ecount++;
        }

        if (ch == 'i' || ch == 'I') //This will be count how many i that user
going to type.
        {
            icount++;
        }

        if (ch == 'o' || ch == 'O') //This will be count how many o that user
going to type.
        {
            ocount++;
        }

        if (ch == 'u' || ch == 'U') //This will be count how many u that user
going to type.
        {
            ucount++;
        }
    }
}
```



```

        if (account >= ecount && account >= icount && account >= ucount && account
>= ocount ) /*This block is for deciding the maxcount. Which vowel is pressed more
than others will be our maxcount.*/

            maxcount = account;

        else if (ecount >= account && ecount >= icount && ecount >= ucount &&
ecount >= ocount)

            maxcount = ecount;

        else if (icount >= account && icount >= ecount && icount >= ucount &&
icount >= ocount )

            maxcount = icount;

        else if (ucount >= account && ucount >= ecount && ucount >= icount &&
ucount >= ocount )

            maxcount = ucount;

        else if (ocount >= account && ocount >= ecount && ocount >= icount &&
ocount >= ucount )

            maxcount = ocount;

    }

    cout << "\nVOWEL" << setw(10) << "COUNT" << "\t";

    for (int displayNumbers = 1; displayNumbers <= maxcount;
displayNumbers++) //This "for" loop for printing 1 to maximum count number.
    {
        cout << setw(3) << displayNumbers;
    }

    cout << endl;

    cout << "a" << setw(11) << account << "\t";

    for (int adisplay = 0; adisplay < account; adisplay++) //This for loop for
printing "a" for how much user typed.
    {
        cout << setw(3) << "a";
    }

    cout << endl;

    cout << "e" << setw(11) << ecount << "\t";

    for (int edisplay = 0; edisplay < ecount; edisplay++) //This for loop for
printing "e" for how much user typed.
    {
        cout << setw(3) << "e";
    }

    cout << endl;

```

```

        cout << "i" << setw(11) << icount << "\t";

        for (int idisplay = 0; idisplay < icount; idisplay++) //This for loop for
printing "i" for how much user typed.
        {
            cout << setw(3) << "i";
        }

        cout << endl;

        cout << "u" << setw(11) << ucount << "\t";

        for (int udisplay = 0; udisplay < ucount; udisplay++) //This for loop for
printing "u" for how much user typed.
        {
            cout << setw(3) << "u";
        }

        cout << endl;


        cout << "o" << setw(11) << ocount << "\t"; //This for loop for printing
"o" for how much user typed.

        for (int odisplay = 0; odisplay < ocount; odisplay++)
        {
            cout << setw(3) << "o";
        }

        cout << endl;


        system("pause");

        return 0;

}

```