ASSIGNMENT #3

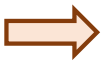
SUBJECT & BASIC INFORMATION

Write down the C++ code according to the following critea below.

- Define a gloabal integer constant and name it as **MAX.**
- Create a char array with **MAX** elements, name it as **Alphabet** and initialize their values randomly from uppercase letters of English alphabet.
- Create a matrix with size **MAX**x**MAX,** name it as **RandomMatrix** and assign their values from the randomly generated **Alphabet** array.
- Ask and force the user to enter a word using the generated **Alphabet.**
- Scan the matrix line by line and find the entered word(s) from each line of the matrix and rewrite the matrix on the screen with the found words in red foreground.
- Write a function that checks whether the entered word is in the generated alphabet.
- Write a function that checks whether the word(s) exists in the current line.
- Do not define variables (arrays, matrixes, etc.) globally.
- Do not use string functions (except length() or strlen()).

SAMPLE SCREEN OUTPUT FOR THE REQUESTED PROGRAM

```
Generated Alphabet is "X-A-R-T-G-H-N-T-K-P-F-B-"
**********************
XRRRBFTXTTNN
FPTPAPKFRPHA
NTPXTXNHTRTT
PXBXTGGFGHAT
RNATKFNXNFPN
PGRFAAATXHRB
GATTGNKFBKKX
ARANBGXXPGRH
NHRFNHGNNTPP
FKXBTHHTTXTB
ARTRBNTRFGGB
AKAXNXBBRBHR
**********************
Enter a word of using the alphabet:XC
Enter a word of using the alphabet:XAC
Enter a word of using the alphabet:XT
```



```
XRRRBFTXTTNN
FPTPAPKFRPHA
NTPXTXNHTRTT
PXBXTGGFGHAT
RNATKFNXNFPN
PGRFAAATXHRB
GATTGNKFBKKX
ARANBGXXPGRH
NHRFNHGNNTPP
FKXBTHHTTXTB
ARTRBNTRFGGB
AKAXNXBBRBHR
```

RULES & EVALUATION

- Using a **goto** statement is strictly prohibited.
- Each C++ file should include this comment lines below at the beginning of the C++ file

```
// ********************************************************************************
// ******                STUDENT NAME :                                      *****
// *****               STUDENT NUMBER :                                     *****
// *****                 ASSIGNMENT # :                                     *****
// *****                     - HONOR CODE -                                 *****
// ********************************************************************************
```

- The code below can help Windows operating system users to write text in different colors on console. The users who do not use Windows can test their codes (for windows.h) on Windows virtual machine.

```
#include <iostream>
#include <windows.h>

#define color_black      0
#define color_dark_blue  1
#define color_dark_green 2
#define color_light_blue 3
#define color_dark_red   4
#define color_magenta    5
#define color_orange     6
#define color_light_gray 7
#define color_gray       8
#define color_blue       9
#define color_green     10
#define color_cyan      11
#define color_red       12
#define color_pink      13
#define color_yellow    14
#define color_white     15

using namespace std;

int main()
{
    HANDLE hConsole = GetStdHandle(STD_OUTPUT_HANDLE);
    FlushConsoleInputBuffer(hConsole);

    // color your text in Windows console mode
    // colors are 0=black 1=blue 2=green and so on to 15=white
    // colorattribute = foreground + background * 16
    // to get red text on yellow use 4 + 14*16 = 228
    // light red on yellow would be 12 + 14*16 = 236
    SetConsoleTextAttribute(hConsole, color_dark_blue +color_light_gray*16);
    cout << "SAY HELLO TO ASSGINMENT #3! :)\n\n";
    SetConsoleTextAttribute(hConsole, color_black + color_light_gray * 16);
}
```

- You should compile your codes with **Microsoft Visual Studio 2022**. (NOTE: If you use another compiler, please test your codes with this compiler before uploading your homework on system).
- **Deadline:** Control SABIS system
- You should upload only your C++ file (.cpp file) together before deadline.
- Evaluation Criteria
  - Comment lines (student information, explaining operations like variable names, if statements, loops, etc.)
  - Obeying the variable declaration rules
  - Being readable (intendation, comments, etc.)
  - Correct compilation of the code
  - …