A’2p code with prototypesfor week 10-

## **Task(1-2)**

Write an algorithm and a program code corresponding to it, which will have the following requirements:

1. String **T** and symbols **v** and **u** will be inputted from keyboard
2. Program will create another string **Q**, which elements are the symbols from string **T** with the symbols **v** exchanged with symbols **u** and the other way around.
3. The string **Q** will be displayed on screen and written into array **S**.

## **Task(3-4)**

Write an algorithm and a program code corresponding to it, which will have the following requirements:

1. The program will read real valued ($x,ε\in R$ parameters **x** and $ε$ **(0 <** $ε$ **< 1)** from the keyboard .
2. Program will create a real valued array **Y**, with elements:
$y\_{1}=\frac{x}{1!}y\_{2}=\frac{x^{3}}{3!}y\_{3}=\frac{x^{5}}{5!}…$ y[i]-y[i+1]<$ε$
3. Program outputs to screen the number of elements **k** in array **Y** and also all of the elements with their indexes.

## **Task(5-6)**

Write an algorithm and a program code corresponding to it, which will have the following requirements:

1. Program inputs A[n],n<15 positive integers from a keyboard (every number is less than 3889)
2. Program outputs each inputted number and its Roman notation, into array S, row by row. For example
5 V
11 XI
1 I
100 C
…

**4.Task(7-8)**

Write an algorithm and a corresponding program together to:

1. Enter an integer n (1 n 10) of the array A from the keyboard and the real numbers of the array A and a positive scalar k.

2. the elements of array A are formed into a two-dimensional real number array (matrix) B of length k, with the elements "absent" in the last row (if n is not a multiple of k);

3. array B is displayed (output on screen) in rows.

**5.Task(9-0)**

Write an algorithm and a corresponding program together to:

 1.From the keyboard enters a two-dimensional array A (matrix) with rows and columns numbers n and m (1 < n, m < 10) ;

2. From the keyboard, enter a two-dimensional array B (matrix) with rows and columns numbers k and l (1<k, l<10) ;

3. C is formed by sum of arrays A and B;

4. Array C is displayed (output to the screen) by rows.

NB! The dimensions of array C are min (n, k) and min (m, l).

**6. Task -x**

Design an algorithm and a corresponding program together to:

1.from keyboard enters an integer number n (1 < n < 20) and array A;

2.from keybord enters an integer m and array B(1 < m < 20);

3. forming a real array C by switching elements of array B between elements of array A;

4. display (output to the screen) elements of the array C with indexes