Quiz 3 (submit to NINOVA)

A code that generates smooth curves is going to be implemented. Implement the functions given in the template,

- 05p `void CreateScreen(char**,int,int)` Is responsible to generate a screen array of characters.
- 05p `void DestroyScreen(char*)` Frees the memory allocated.
- 05p `void PrintScreen(char*,int,int)` As the name implies prints the char array to the screen.
- 15p `void MixCoordinates(float (*)[2],float[2],float[2],float)` Blends two 2d-vectors into one by using $v_3 = (1-t)v_1 + tv_2$, where $0 \leq t \leq 1$.
- 70p `void GenerateCurve(char**,int,int,float[2],float[2],float[2],floa` Uses 4 points to generate the curve. It mixes the 2d-vectors like

```
a=mix p_0 and p_1
b=mix p_1 and p_2
c=mix p_2 and p_3
d=mix a and b
e=mix b and c
```


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where $0 \leq t \leq 1$. And places a `'+'` character on the character array to be printed on the screen. Place also `'x'` characters for the points p_0, p_1, p_2 and p_3.

- 0p if your code does not compile
- Only solutions using the provided structure are going to be graded.
- Do not define extra functions.
- You can only use the `malloc` and `free` functions from `stdlib.h`
- and the `printf` function from `stdio.h`, no other function call is allowed.

Only add your implementation to the given template. Do not include a main file or change the functions arguments, return types. Your submission is valid if you submit a valid c function file and if you submit a valid `student.c` file. Do not upload your main file.

An example is shown below,

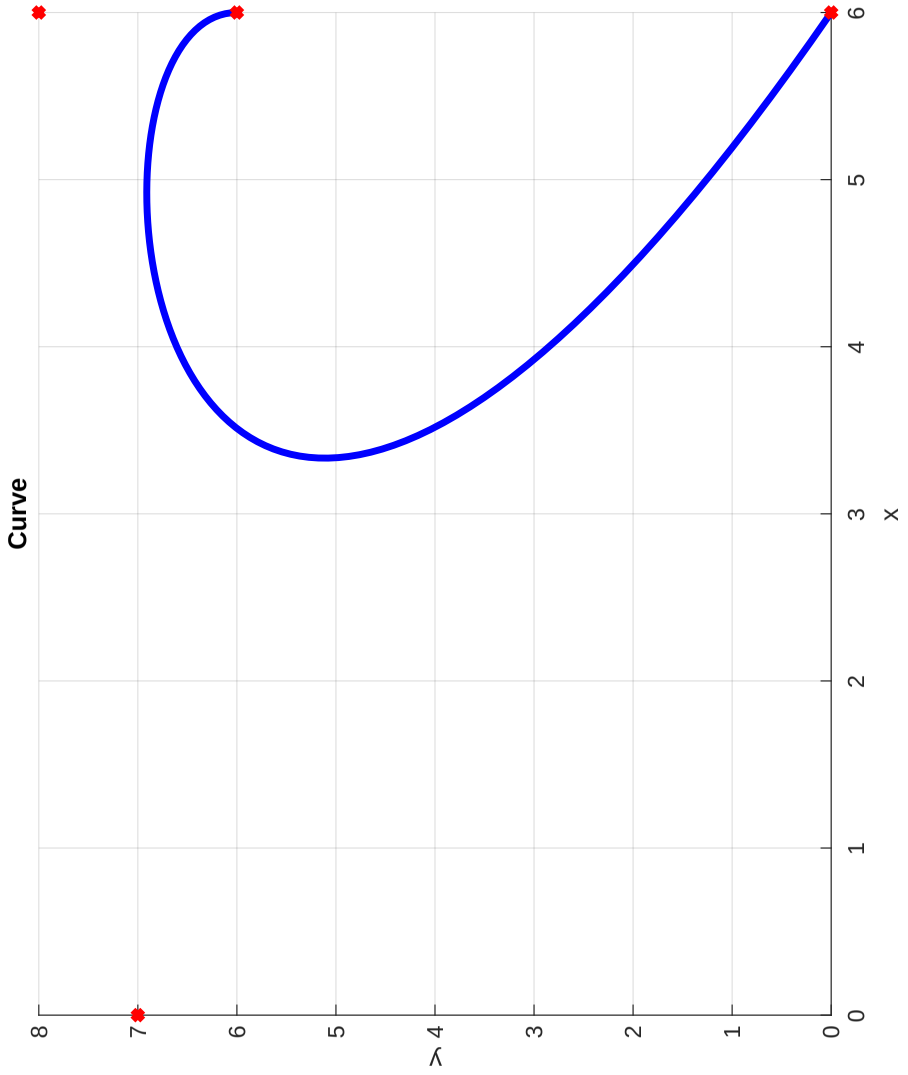

Figure 1: An example curve

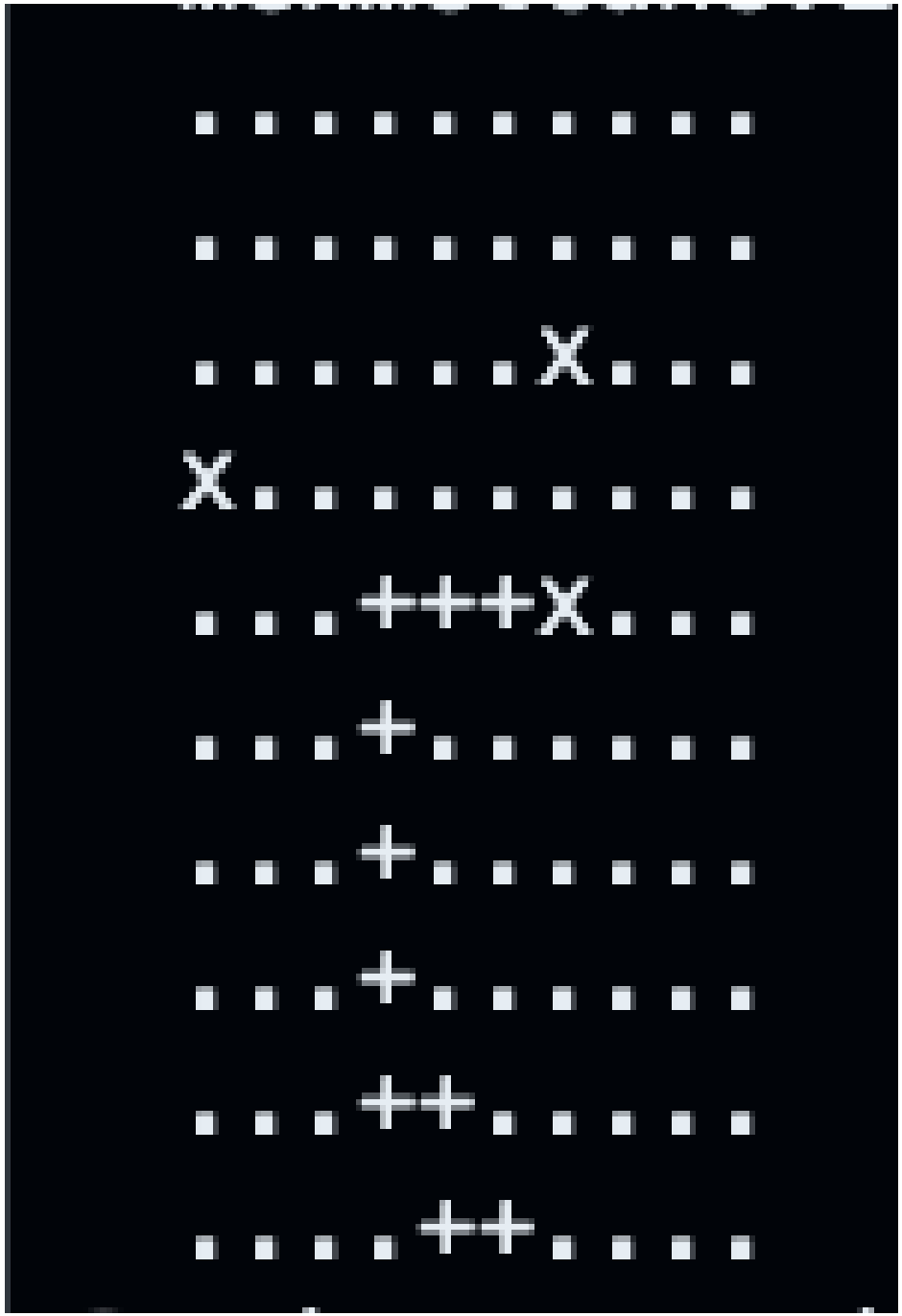

Figure 2: Implementation with $w = 10$, $h = 10$, $(6, 0)$, $(0, 7)$, $(6, 8)$ and $(6, 6)$

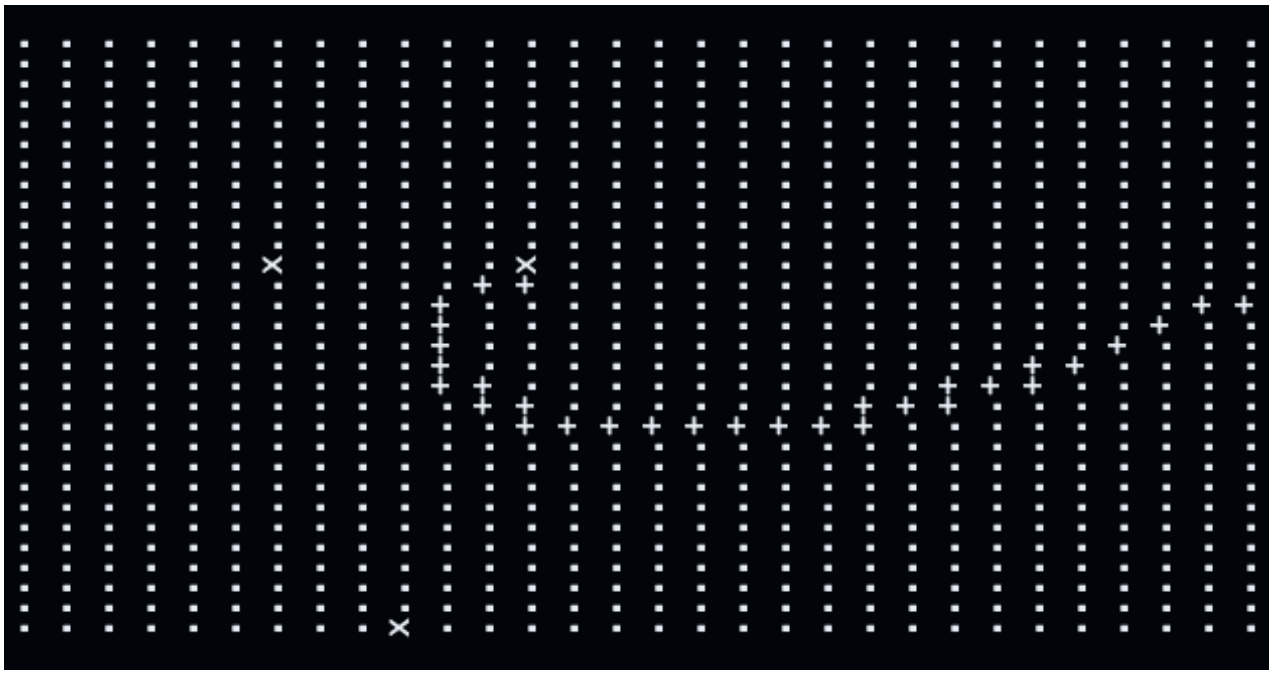

Figure 3: Implementation $w = 30$, $h = 30$, $(18, 0)$, $(0, 21)$, $(18, 24)$ and $(18, 18)$