# Assignment week 4 • Grid Design, Arrays and Loops

This week we are going to practice using grids again. This time with a more complex design that needs to be realized. Next, we will practice creating and manipulating arrays, a standard tool that is used for this is a 'loop'. This week there is an 'advanced' version for some exercises. These only need to be made when there is an interest in them.

✎ **Implement the following**

- Look at the illustration of Appendix 1. Realize this website with the help of a grid (and a flexbox where possible). Take your time with this, there are many details that make the final realized product very interesting.

Here are the instructions:

**Width, Height, and Placement**: No details are provided regarding the width, height, or placement of the web page. Do your best to mimic the image. If it doesn't work, a total width of 1440px may be used.

**Color**: The following colors are included with the hsl to make them with using CSS. If you don't know how to use hsl to give colors, visit Then this page: https://developer.mozilla.org/en-US/docs/Web/CSS/color_value/hsl

Purple 100 – hsl(254, 88%, 90%)
Purple 500 – hsl(256, 67%, 59%)

Yellow 100 – HSL(31, 66%, 93%)
Yellow 500 – hsl(39, 100%, 71%)

White – hsl(0, 0%, 100%)
Black – hsl(0, 0%, 7%)

**Fonts**: The default font size is 18px. Set the font size to the <body> using CSS. The following information is provided.

Font family: DM-Sans; font-weights: 400, 500.

Use the following line in your HTML (in the <head>) to add this new font:

```
<link rel="preconnect" href="https://fonts.googleapis.com">

<link rel="preconnect" href="https://fonts.gstatic.com"
crossorigin>

<link
href="https://fonts.googleapis.com/css2?family=DM+Sans:ital,opsz,
wght@0,9..40,100..1000;1,9..40,100..1000&display=swap"
rel="stylesheet">
```

Then, use the following css rule to apply DM Sans:

```
font-family: "DM Sans", sans-serif
font-optical-sizing: auto;
font-weight: <weight of your choice>;
font-style: normal;
```

**Resources:** On blackboard there is a ForStudents.zip available within week 4 folder. All the necessary images are available in this folder. Almost all images are of the new WEBP format, these can be used in the same way as 'standard' images.

### 🖉 Implement the following

Task 1a: Create an array called *'colorwheel'* with about 6 different colors. These may be of your own choice. Next, create a function named *‘outputColor’* that *doesn't accept a* parameter.
This function, when invoked, will create a random integer between 1 and 6 (including 1 and 6 as options, use the rand_int function of PHP). Based on this number, a color will be chosen from the array and displayed.
**P.S. think about the scope of the function and the possible placement of the array!**

Task 1b: Make a copy of Task 1a's answer and modify it so that **2 colors have a double chance of being chosen relative to** the other colors.

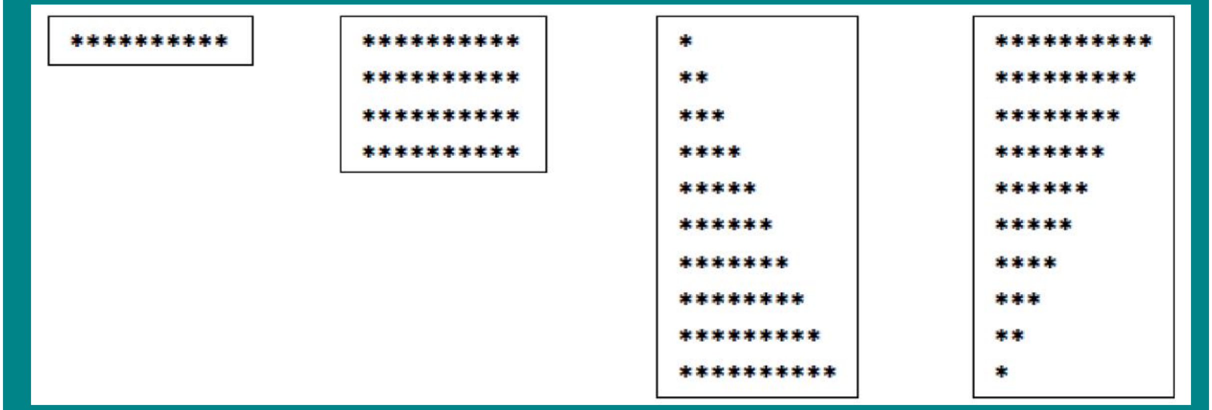
Task 1c – advanced: Make a copy of the answer from Task 1a and modify it so that **the previous color shown has only half a chance of being shown relative to the other colors**. In the first round, there is no previous color shown and all colors have the same chance of being chosen.

Task 2a: Create an array called *'areacodes'* and place the following numbers in this exact sequence in the array: 14, 26, 12, 58, 34, 66, 7, and 41. Write a function that looks up the highest number in the array and displays it on the screen.

Task 2b: Create a function that can search for a number within this array, when found it gives a success! message that also contains the number found. Also, give it a fail! message when the number is not found.

Task 2c – Advanced: Rewrite the search function of Task 2b, but expands the function with the ability to search for multiple numbers. Give a comprehensive success and fail message when applicable. The success message must include **how many times** the number you are looking for has been found in the array.

Task 3a: Build the following 'shapes' using loops and echoes. An ultrasound may contain only a single asterisk (*). Make use of <br> when needed. Violating the <br> within a <p></p> rule is permitted.



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

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

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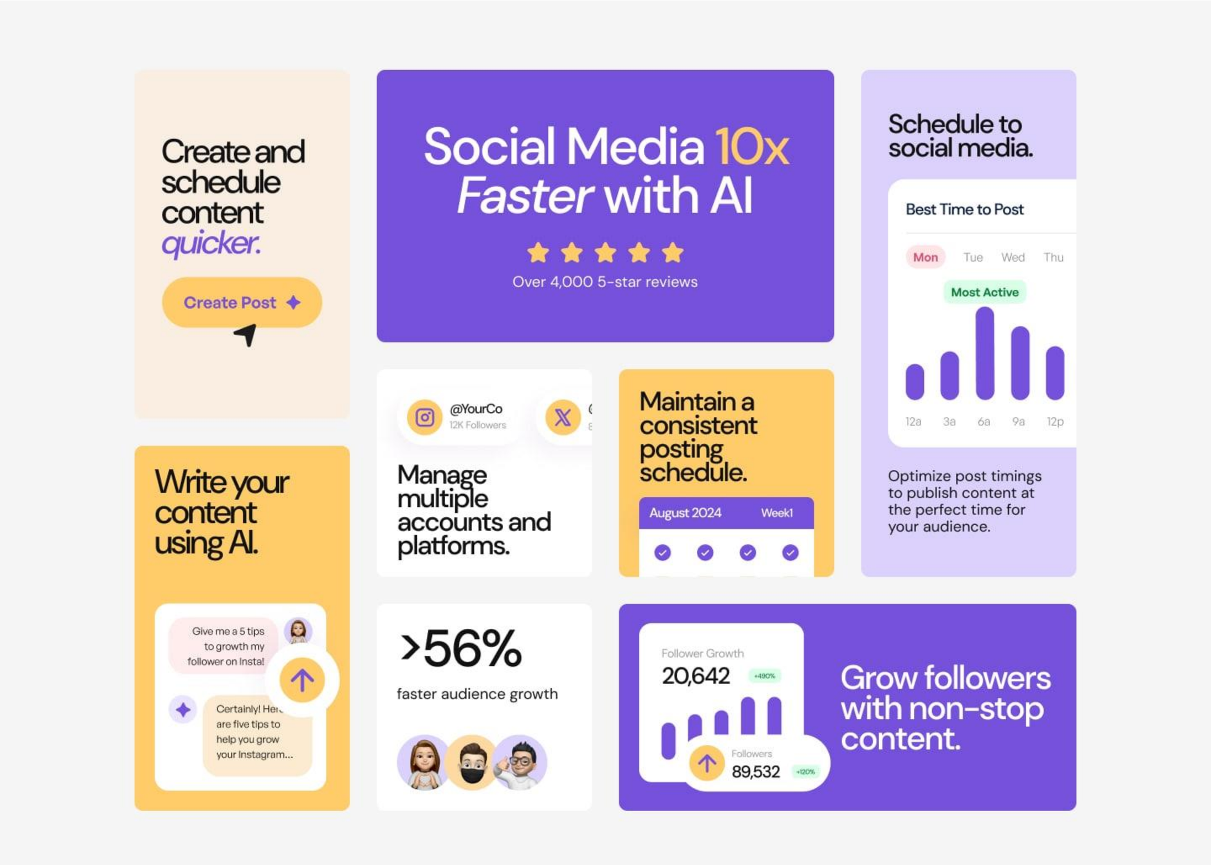
***
****
*****
******
*******
********
*********
**********
```

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

Task 3b: Choose at least 3 shapes from Appendix 2 to recreate.

Task 3c – advanced: Create a function that represents the fibonacci sequence, with commas between the numbers. This function accepts a single parameter called *'count'*. Parameter *count* is used to determine how many numbers of the fibonacci sequence are displayed.

# Appendix 1.


Create and schedule content quicker.
Create Post
Social Media 10x Faster with AI
Over 4,000 5-star reviews
Schedule to social media.
Best Time to Post
Mon
Tue
Wed
Thu
Most Active
12a
3a
6a
9a
12p
Optimize post timings to publish content at the perfect time for your audience.
@YourCo
12K Followers
Manage multiple accounts and platforms.
Maintain a consistent posting schedule.
August 2024
Week1
Write your content using AI.
Give me a 5 tips to growth my follower on Insta!
Certainly! Here are five tips to help you grow your Instagram...
>56%
faster audience growth
Follower Growth
20,642
+490%
Followers
89,532
+120%
Grow followers with non-stop content.

**Appendix 2.**

## Assignment 1

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

## Assignment 2

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

## Assignment 3

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

## Assignment 4

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

## Assignment 5

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

## Assignment 6

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

## Assignment 7

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```

## Assignment 8

```
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```

## Assignment 9

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

## Assignment 10

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

## Assignment 11

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

## Assignment 12

```
6       7       8
12      14      16
18      21      24
24      28      32
30      35      40
36      42      48
42      49      56
48      56      64
54      63      72
60      70      80
```

## Assignment 13

```
- + + + + + + +
+ - + + + + + +
+ + - + + + + +
+ + + - + + + +
+ + + + - + + +
+ + + + + - + +
+ + + + + + - +
+ + + + + + + -
```

## Assignment 14

```
- - - - - - - -
+ - - - - - - -
+ + - - - - - -
+ + + - - - - -
+ + + + - - - -
+ + + + + - - -
+ + + + + + - -
+ + + + + + + -
+ + + + + + + +
```

## Assignment 15

```
+ + + + + + + + + + + + + + +
- + + + + + + + + + + + + + -
- - + + + + + + + + + + + - -
- - - + + + + + + + + + - - -
- - - - + + + + + + + - - - -
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- - - - - - + + + - - - - - -
- - - - - - - + - - - - - - -
- - - - - - - - - - - - - - -
```

## Assignment 16

```
- - - - - - - - - - - - - - -
- - - - - - - + - - - - - - -
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## Assignment 17

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## Assignment 18

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+ - - - - - - -
```

## Assignment 19

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
```

## Assignment 20

```
1 2 3 4 5 6
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

## Assignment 21

```
          1
        2 1
      3 2 1
    4 3 2 1
  5 4 3 2 1
6 5 4 3 2 1
```

## Assignment 22

```
1 2 3 4 5 6
  1 2 3 4 5
    1 2 3 4
      1 2 3
        1 2
          1
```

## Assignment 23

```
1 2 3 4 5 6
  2 3 4 5 6
    3 4 5 6
      4 5 6
        5 6
          6
```

## Assignment 24

```
0  1  2  3  4  5  6  7  8  9
1  2  3  4  5  6  7  8  9  0
2  3  4  5  6  7  8  9  0  1
3  4  5  6  7  8  9  0  1  2
4  5  6  7  8  9  0  1  2  3
5  6  7  8  9  0  1  2  3  4
6  7  8  9  0  1  2  3  4  5
7  8  9  0  1  2  3  4  5  6
8  9  0  1  2  3  4  5  6  7
9  0  1  2  3  4  5  6  7  8
```