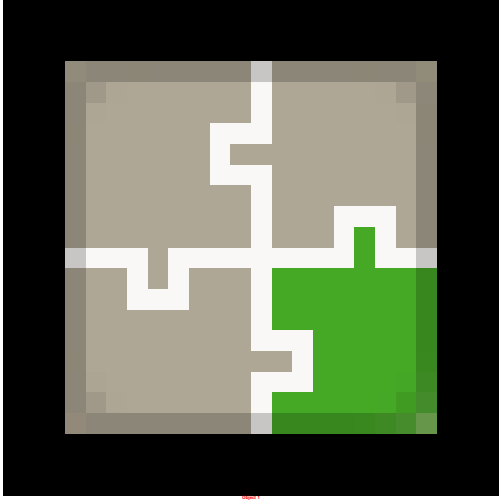

# Assaignment 2

Question 1

Write a program to print the following pattern

1

2*2

3*3*3

4*4*4*4

Code:

```
#include<iostream>
using namespace std;
int main()
{
int i,j;
for(i=1;i<=4;i++){
for(j=1;j<=i;j++){
if(j<i)
cout<<i<<"*";
else
cout<<i;
}
cout<<"\n";
}
return 0;
}
```

Question 2

Write a program to print the following pattern

1

01

101

0101

10101

Code:

```
#include<iostream>
using namespace std;
int main()
{
int i,j;
for(i=1;i<=5;i++){
for(j=1;j<=i;j++){
if(i%2!=0)
{
if(j%2!=0)
cout<<"1";
else
cout<<"0";
}

if(i%2==0)
{
if(j%2!=0)
cout<<"0";
else
cout<<"1";
}

}
cout<<"\n";
}
return 0;
}
```

# Difference Between Array and Pointer

1.  An array stores the variables of **similar data types** and the data types of the variables must match the type of array. Conversely, the pointer variable stores the **address of a variable**, of a type similar to a type of pointer variable type.

2. We can generate an array of pointers i.e. array whose variables are the pointer variables. On the other hand, we can create a pointer that points to an array.

3. Java supports array, but it does not support pointers.

4. An array size decides the number of variables it can store. As against, a pointer variable can store the address of the only variable.

# Similarities Between Array and Pointer

**Arrays and Pointers,** Nothing. · You may be confused by the idea that when passing an array into a function you pass a pointer to the first element. But other than that -  Nothing. You may be confused by the idea that when passing an array into a function you pass a pointer to the first element. But other than that - they are not similar at all. Array is an array of data. Array being a “normal” word, not just a coding term. You can have an array of students in a classroom.

**What is the similarities between array and pointer?,** The main difference between arrays and pointers is that they are completely different things. As array is a collection of objects, which is laid out  There are a number of similarities between arrays and pointers in C. If you have an array int a[10]; you can refer to a[0], a[1], a[2], etc., or to a[i] where i is an int. If you declare a pointer variable ip and set it to point to the beginning of an array: int *ip = &a[0]; you can refer to *ip, *(ip+1), *(ip+2), etc., or to *(ip+i) where i is an int. There are also differences, of course. You cannot assign two arrays; the code int a[10], b[10]; a = b; /* WRONG */

**Understanding difference/similarities with array and pointers in c++ ,** There are a number of similarities between arrays and pointers in C. If you If you declare a pointer variable ip and set it to point to the beginning of an array: The second array is allocated on the heap and the stack contains the pointer variable to that array. In both cases you do not pass a pointer to the first array entry, but to the array and the pointer to the array respectively.