nested if

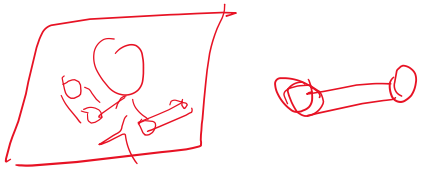
```
if ( ) {
    if ( )
    {

    }
}
```

---

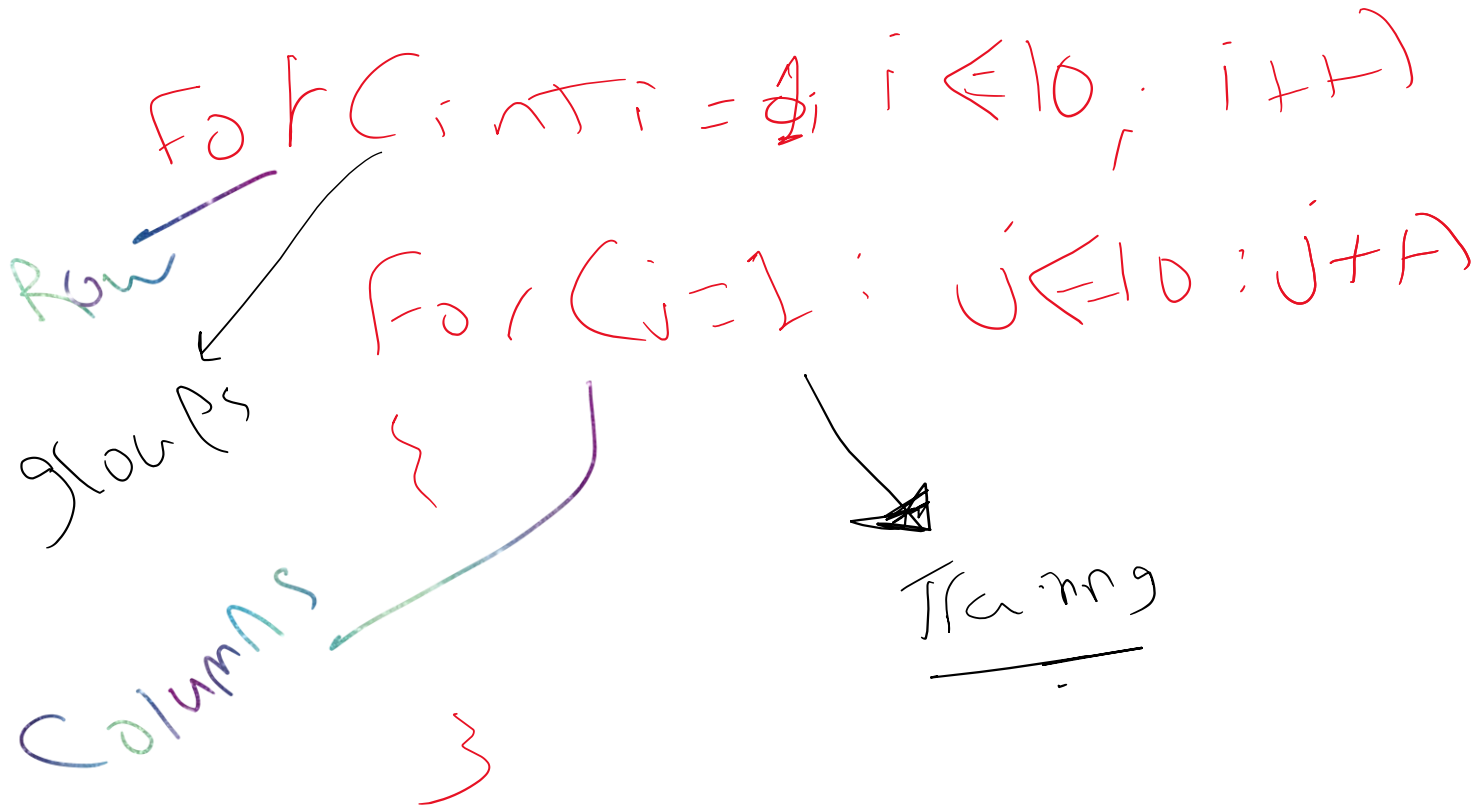
for
for

nested for

Gym:

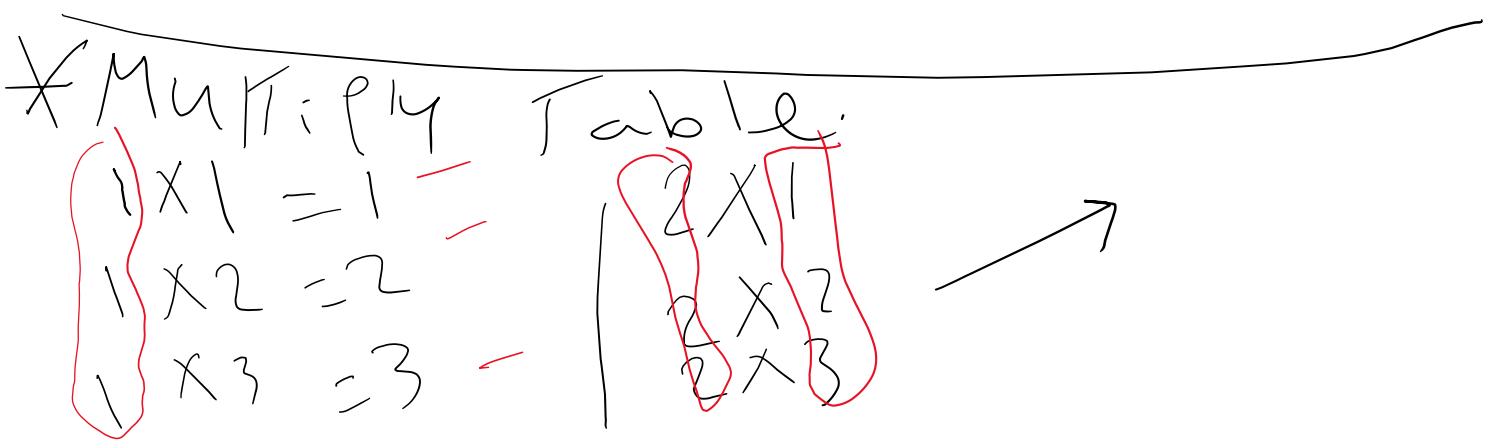


Each : 10 Times. = 100
10 groups.



main.cpp

```cpp
#include <iostream>

using namespace std;

int main()
{
    for(int i=1;i<=10;i++){
        for(int j=1;j<=10;j++){
            cout<<i<<":"<<j<<":Hello,world"<<endl;
        }
    }


}
```



main.cpp

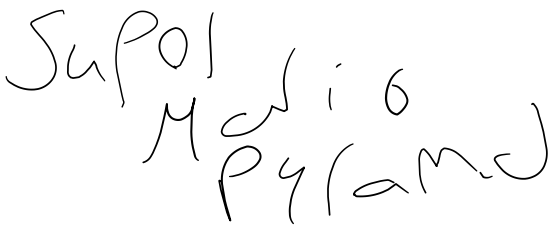
```cpp
#include <iostream>

using namespace std;

int main()
{
    for(int i=1;i<=12;i++){
        for(int j=1;j<=12;j++){
            cout<<i<<"x"<<j<<"="<<i*j<<endl;
        }
    }

}
```

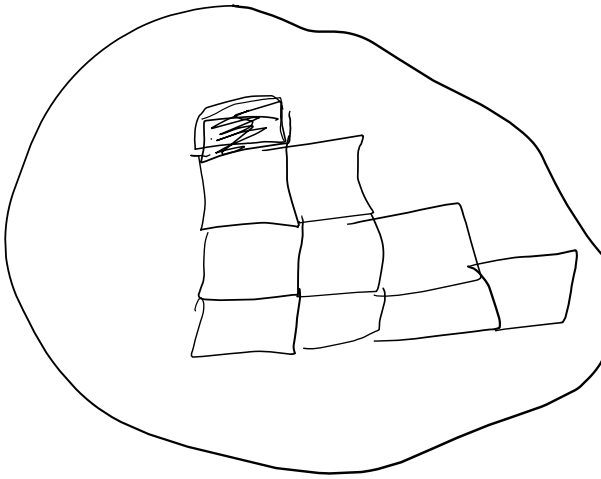
```
1x1=1
1x2=2
1x3=3
1x4=4
1x5=5
1x6=6
1x7=7
1x8=8
1x9=9
1x10=10
1x11=11
1x12=12
2x1=2
2x2=4
2x3=6
2x4=8
2x5=10
2x6=12
```

main.cpp

```cpp
#include <iostream>

using namespace std;

int main()
{
    int weeks=4;
    int no_days=5;

    for(int i=1;i<=weeks;i++){
         cout<<"Week:"<<i<<endl;
        for(int j=1;j<=no_days;j++){
            cout<<"Day:"<<j<<endl;
        }
    }


}
```

```
"C:\Users\THE LAP
Week:1
Day:1
Day:2
Day:3
Day:4
Day:5
Week:2
Day:1
Day:2
Day:3
Day:4
Day:5
Week:3
Day:1
Day:2
Day:3
Day:4
Day:5
Week:4
Day:1
Day:2
Day:3
Day:4
Day:5
```

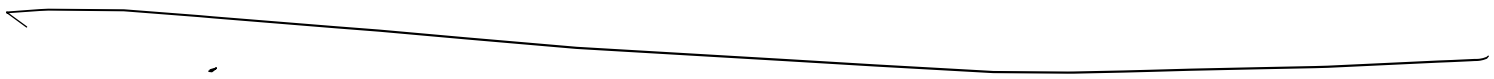




main.cpp

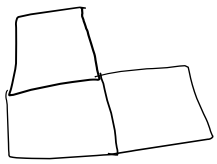
```cpp
#include <iostream>

using namespace std;

int main()
{
    for(int i=1;i<7;i++){
        for(int j=1;j<7;j++){
            cout<<"#";
        }
        cout<<endl;
    }
```

```
"C:\Use
######
######
######
######
######
######

Process r
Press any
```



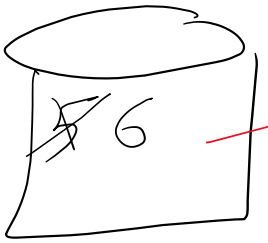
i 1 2

j 1 1



Variable

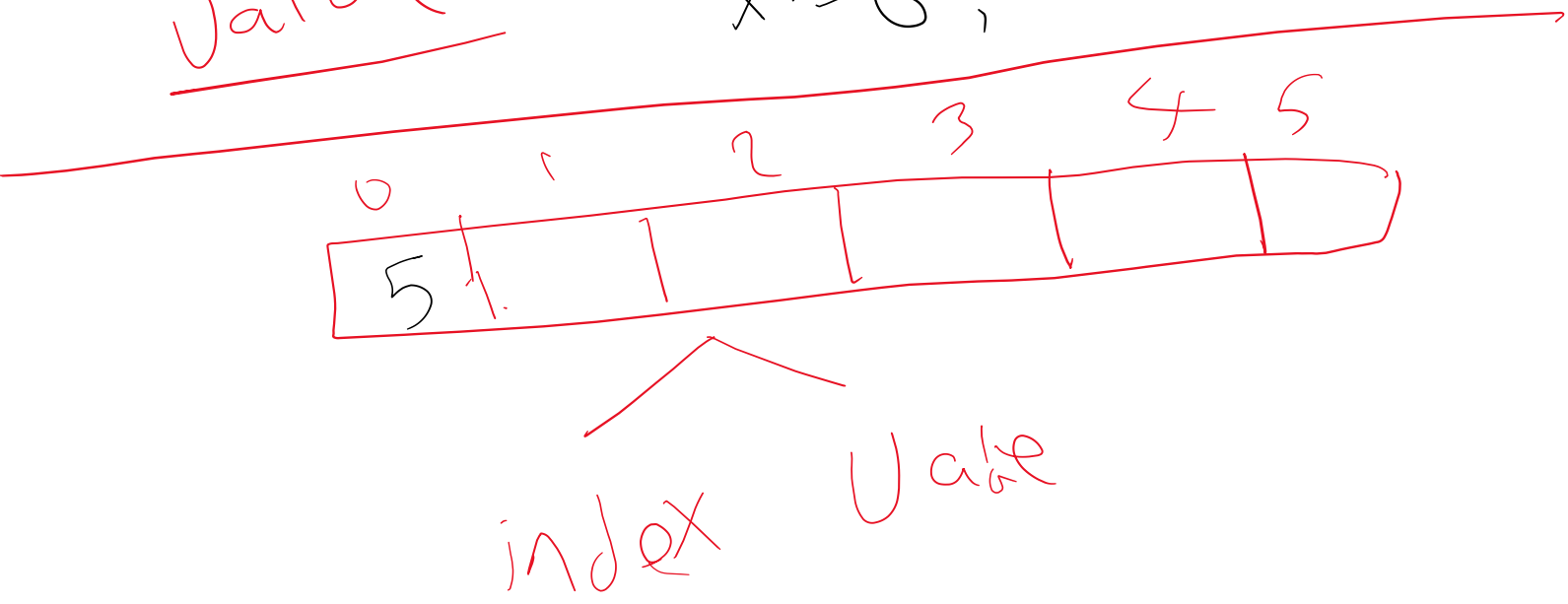
Can store single value



value

int x = 5;

x = 6;



index

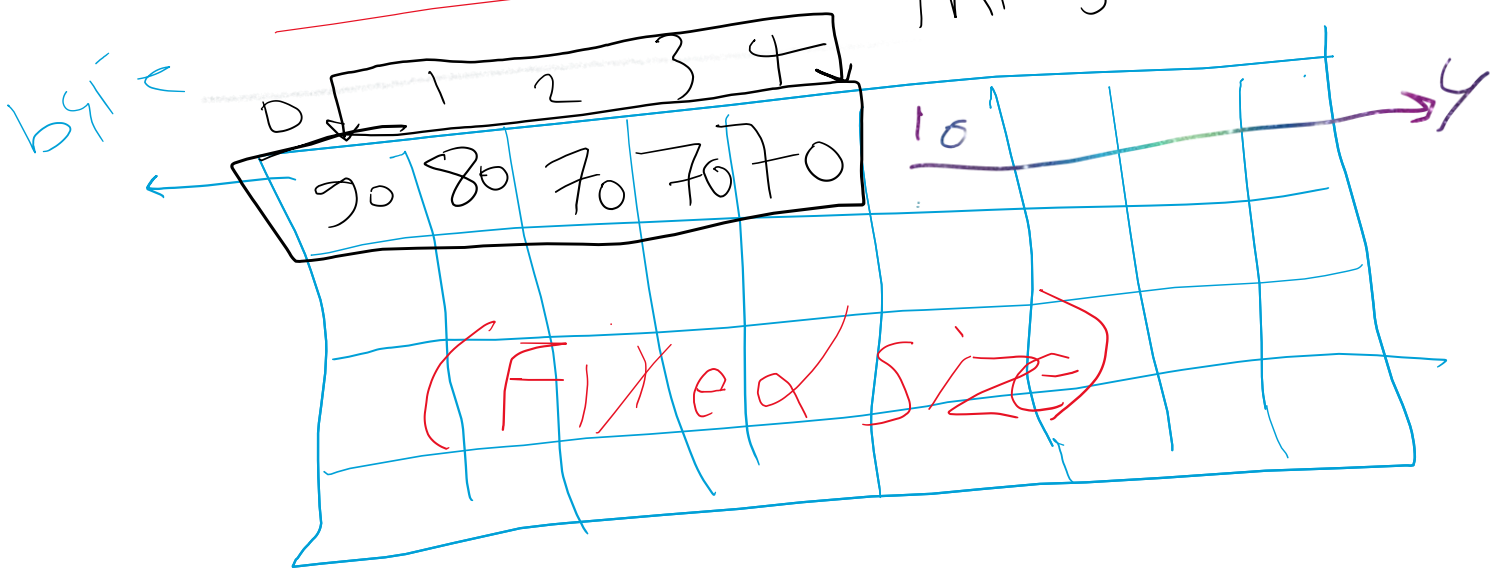
value

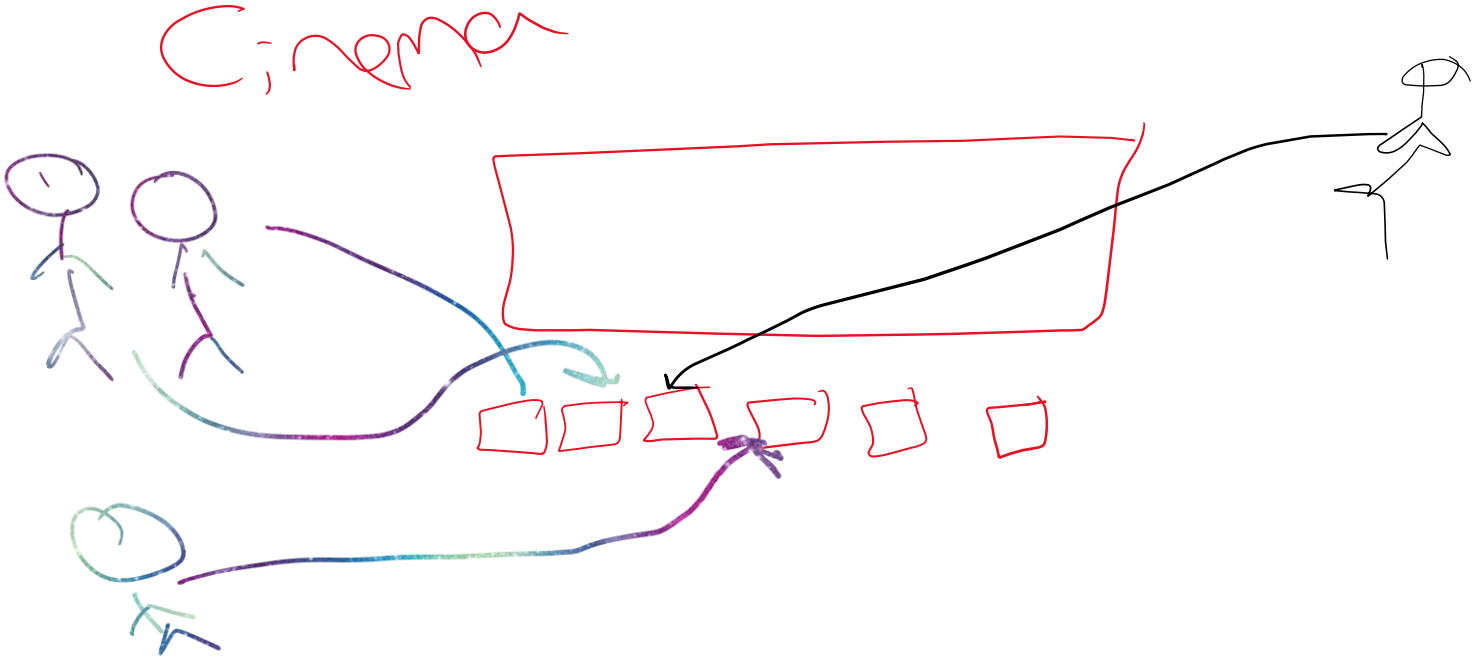
main.cpp

```cpp
#include <iostream>

using namespace std;

int main()
{
    int n=5;
    for(int i=1;i<=n;i++){
        for(int j=1;j<=i;j++){
            cout<<"#";
        }
        cout<<endl;
    }

}
```

Array: is a collection of similar data elements, stored at Contigious memory locations

int stu[5];



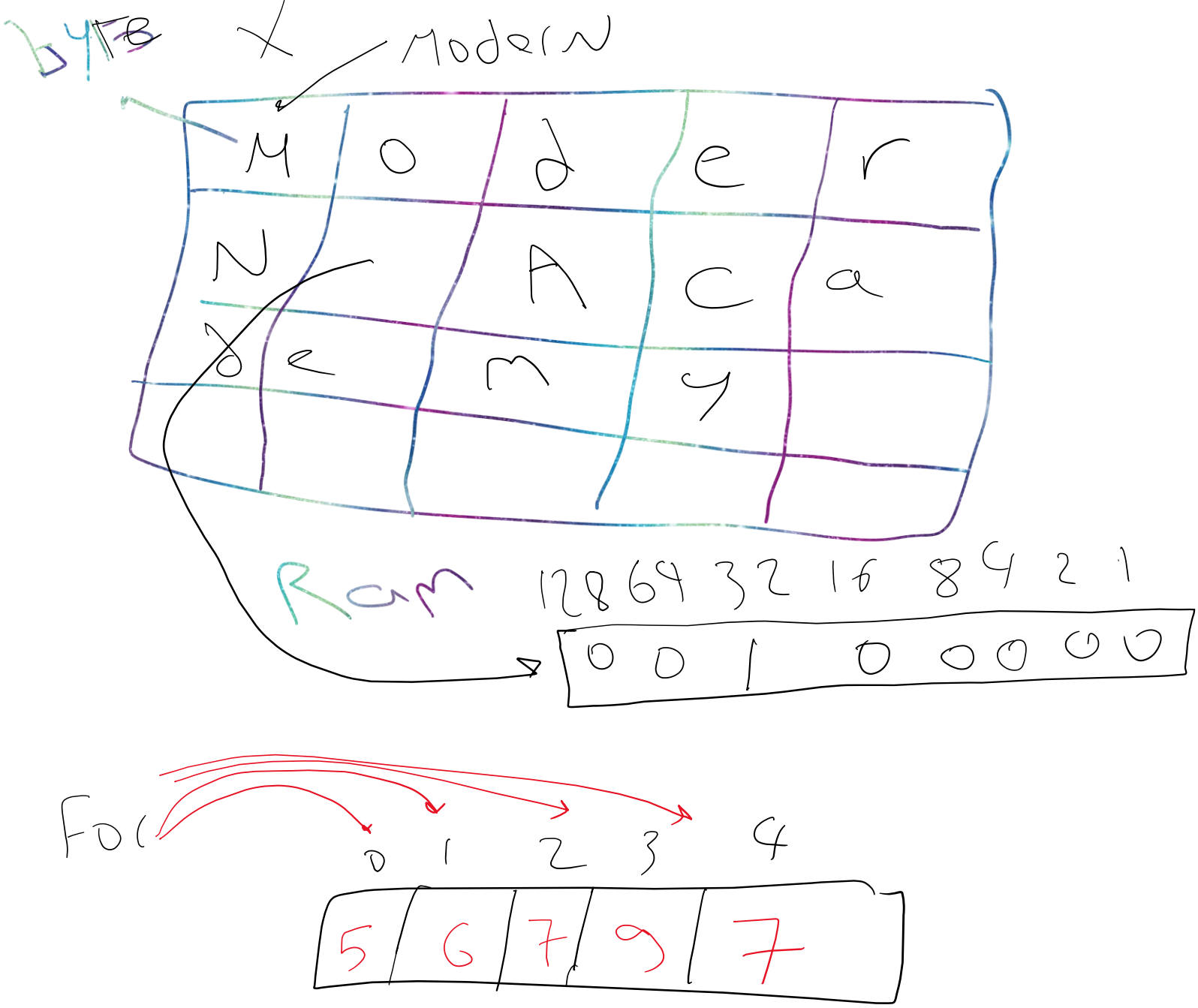


main.cpp

```cpp
#include <iostream>

using namespace std;

int main()
{
    string name="MEC";
    cout<<name[0]<<endl;


}
```

"C:\Users\THE LAPTOP SHOP\Desktop\Intro To Software Engineering\Source Code\nestedloop\bin\Debug\nest

M


BYTE
Modern
M o d e r
N A C a
d e m y
Ram
128 64 32 16 8 4 2 1
0 0 1 0 0 0 0 0

For
0 1 2 3 4
5 6 7 9 7

main.cpp

```
5   int main()
6   {
7       int student_array[5];
8
9
10      for(int i=0;i<5;i++){
11          cout<<"Enter the grade of student number"<<(i+1)<<":"<<endl;
12          cin>>student_array[i];
13      }
14
15          for(int i=0;i<5;i++){
16              if(student_array[i]>50){
17                  cout<<"The student in index number"<<i<<": value ="<<student_array[i]<<"Suceed"<<endl
18      }
19      else{}
20
21      }
22
```

Logs & others

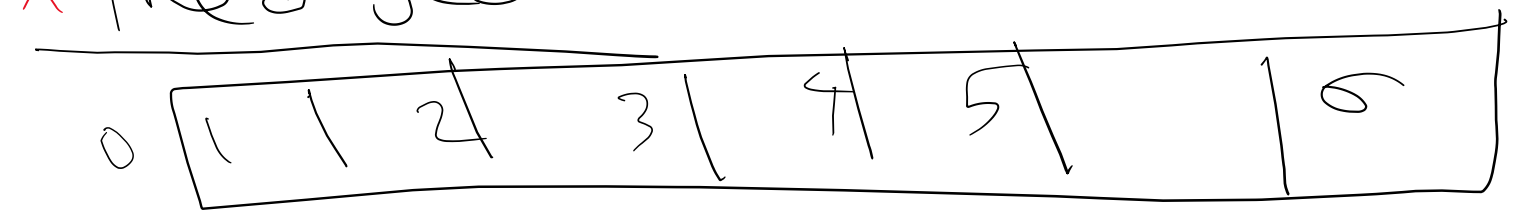
Build log | Build messages | CppCheck/Vera++

```
0 error(s), 0 warning(s) (0 minute(s), 6 second(s))

-------------- Run: Debug in nestedloop (compiler: GNU
```

Select "C:\Users\THE LAPTOP SHOP\Desktop\Intro To Software Engineering\Source Code\nestedloop\bin\Debug\nestedloop.exe"

```
Enter the grade of student number1:
90
Enter the grade of student number2:
20
Enter the grade of student number3:
50
Enter the grade of student number4:
30
Enter the grade of student number5:
70
The student in index number0: value =90Suceed
The student in index number4: value =70Suceed
```

* linear search



disadv: Running time

worken Sorted arrays