LEARN PROGRAMMING

STUDY GROUP - SESSION #8

Weekly: Wednesday 19:15 to 22:15
E037 G29

REMEMBER?

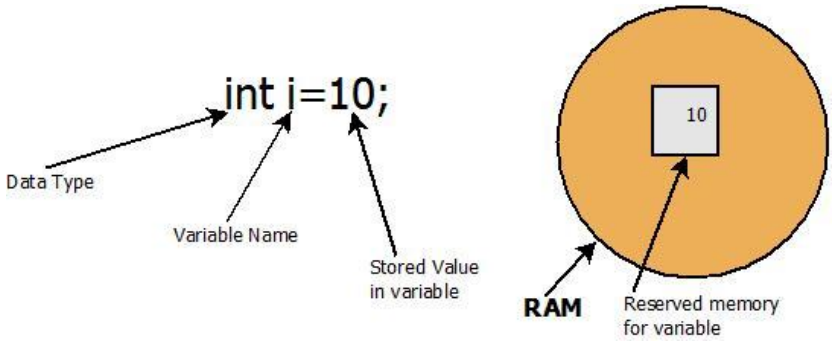
1. Problem solving
2. C++ basic syntax
3. Datatypes
4. Conditional Statements (IF, ELSEIF , ELSE)
5. Loops (For, while, do-while)
6. Functions
    a. Declaration
    b. Definition
    c. Calling
7. Arrays (One/Multi-dimensional)
8. Tasks

DATA TYPES

Data types tells the processor what to **expect** as **value** and how much **memory** space should be reserved.

e.g A variable ‘X’ is declared as *int*, this simply tells the computer that reserve a space for ‘X’ variable so that it can simply hold the value say ‘30’.

1. Integer (int)
2. Character (char/string)
3. Floating (float/double)



FOR LOOP

```
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6      cout <<"Fizz Buzz Problem\n";
7
8      for(int i=1; i<=100; i++)
9      {
10         if (i % 3 == 0 && i % 5 == 0)
11         {
12             cout << i <<" FizzBuzz\n";
13         }
14         else
15         {
16             if (i % 3 == 0)
17             {
18                 cout << i <<" Fizz\n";
19             }
20             if (i % 5 == 0)
21             {
22                 cout<< i <<" Buzz\n";
23             }
24         }
25     }
26
27     return 0;
28 }
```

To output on screen

For loop condition

For loop body

Body starting from { ends with }

If condition

Functions

User-defined Function

- Sum of two numbers
- Add function

```
#include <iostream>
using namespace std;

// Function prototype (declaration)
int add(int, int);

int main()
{
      int num1, num2, sum;
      cout<<"Enters two numbers to add: ";
      cin >> num1 >> num2;

      // Function call
      sum = add(num1, num2);
      cout << "Sum = " << sum;
      return 0;
}

// Function definition
int add(int a, int b)
{
      int add;
      add = a + b;

      // Return statement
      return add;
}
```

1.Declaration

3.Calling

3.Definition

ARRAYS

PRINTING ARRAY EXAMPLE:

*Passing array as an argument in function

Output:

5,10,15

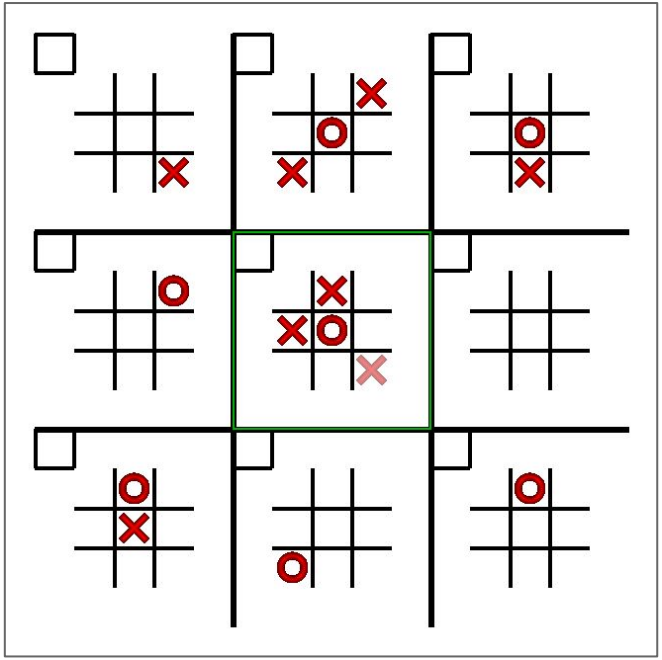
2,4,6,8,10

```
1  // arrays as parameters
2  #include <iostream>
3  using namespace std;
4
5  void printarray (int arg[], int length) {
6    for (int n=0; n<length; ++n)
7      cout << arg[n] << ' ';
8    cout << '\n';
9  }
10
11 int main ()
12 {
13   int firstarray[] = {5, 10, 15};
14   int secondarray[] = {2, 4, 6, 8, 10};
15   printarray (firstarray,3);
16   printarray (secondarray,5);
17 }
```

Task For Today?

WRITE a C++ program:

1. Tic Tac Toe game
    a. Use functions
    b. Nested loops
    c. Arrays



Homework: Submission on 15.03.17

Push your code to repository (next slide)

REPOSITORY

GitHub.com

1. **Create account on git.**
2. **Download GitHub Desktop**
3. **Checkout this repository:** https://github.com/asemahassan/StudyGroup_OVGU
    a. Send pull request (simple).
    b. OR Checkout in Github desktop
        i. Send me your username for git.
        ii. So, I can add you in collaborators.
4. **Create your a folder with your name in Students and add your code files in that folder only.**