More DataTypes, Loops, Iteration

COMP1000

Software Engineering 1

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Please Sign in using Code: SB-BB-DU

@https://durofy.com/mind-map-inheritance

COMP1000 Agenda This Week:

- Arrays
- Strings
- Loops

What do consider:

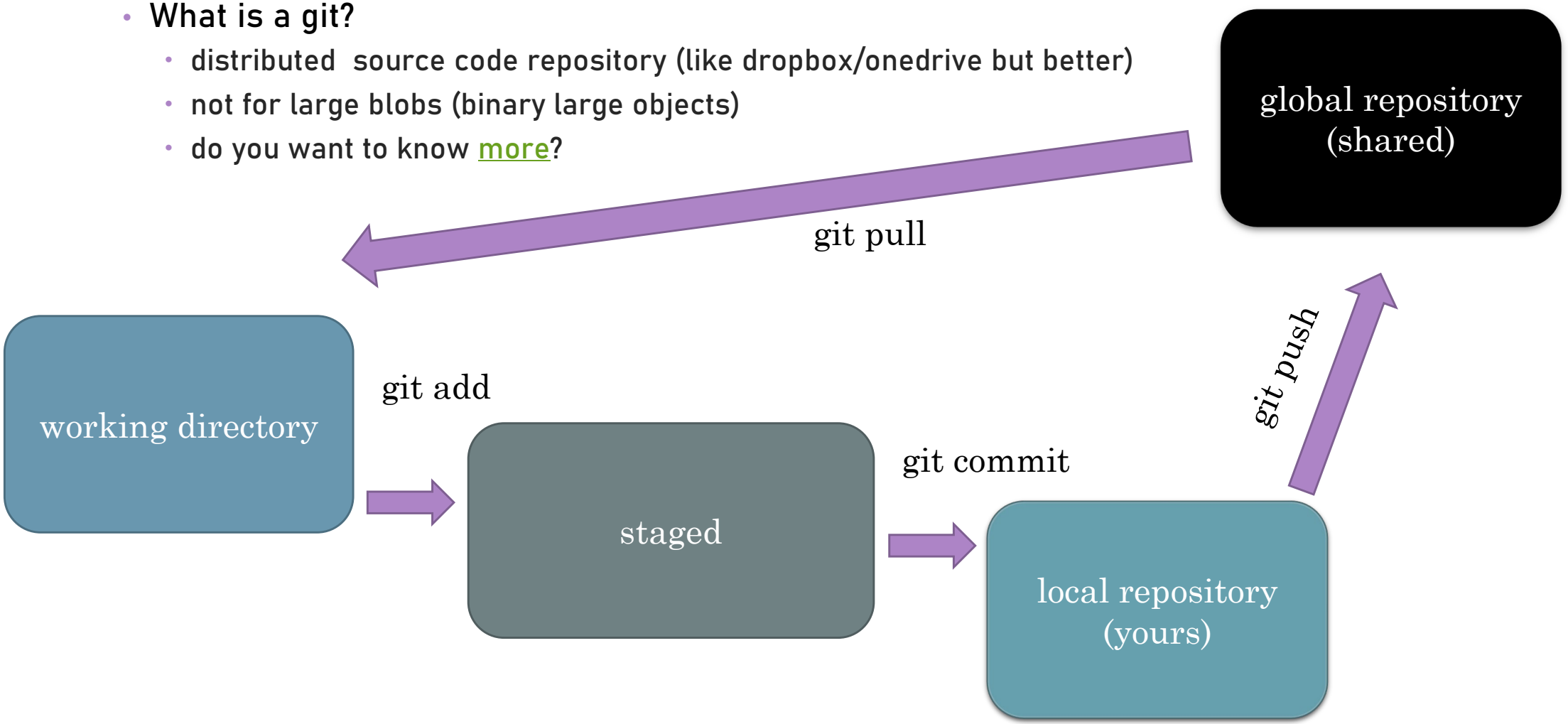
- No help/feedback after hours or on weekends!
  - (Use the lab time wisely)
- No Info if you passed before deadline!

Prep For Thursday:

- Looking into Exercise2
- Come with questions!
- Work through the exercise during the session to get help.

Recap Git

- What is a git?
  - distributed source code repository (like dropbox/onedrive but better)
  - not for large blobs (binary large objects)
  - do you want to know more?



Variables and Coding:

- Practical Introduction to using:
  - Variables
  - Attributes,
  - Objects and
  - Accessing Methods

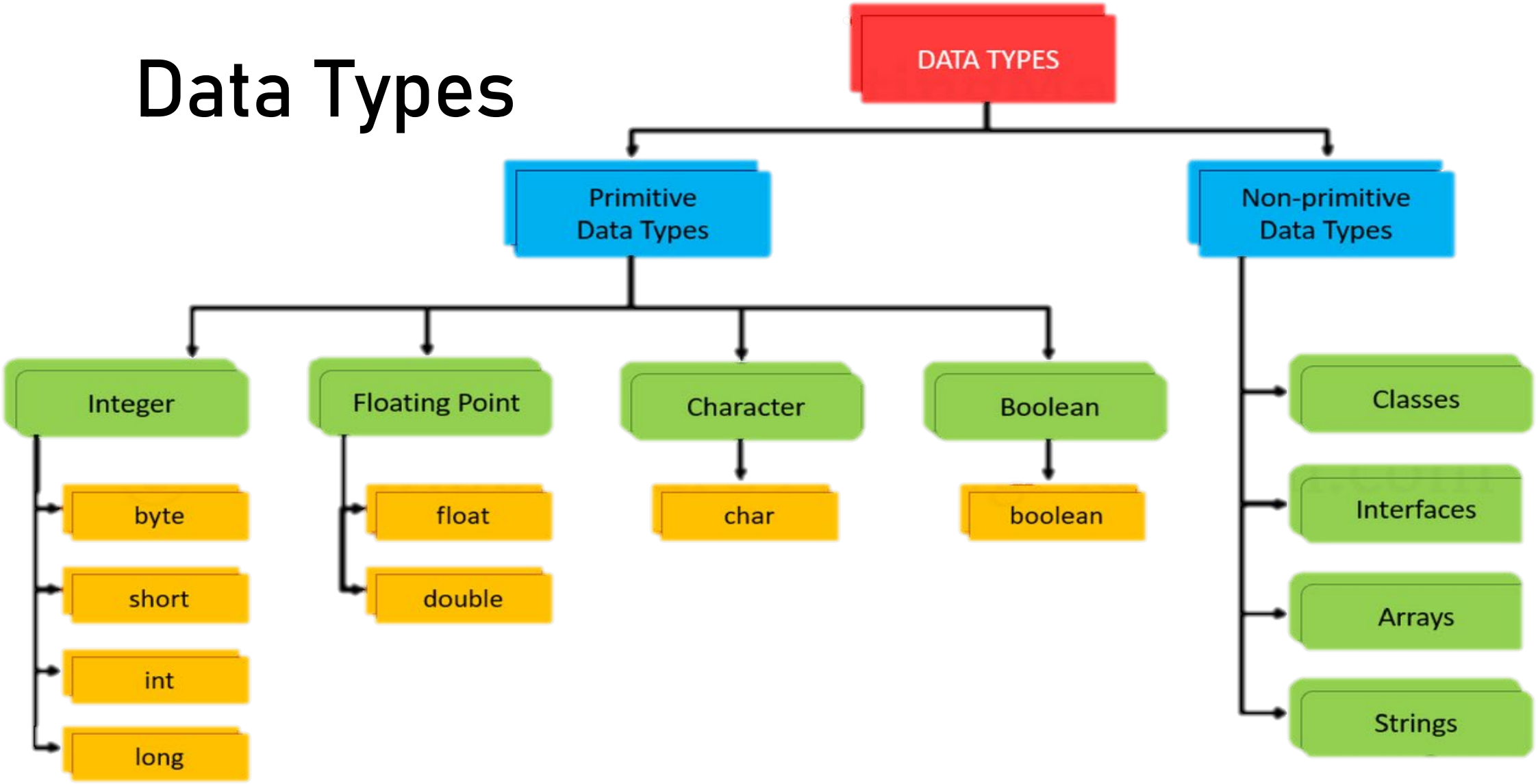
Arrays

- Int [] numbers;
- String [] lines;
- numbers = new int[5];
- lines = new string[100];

C# text handling using String[1,2]

- Non primitive class
- Allows manipulation of characters
- Derived class integrating characters into array
  - String != string (one is a class the other is a data type)
  - string text = “HELLAS”;
  - text[0] == ‘H’;
- Useful methods:
  - Length
  - Joining strings using Concat or + operator
  - Split (uses character to determine where)
  - Trim (removes white spaces at beginning and end)
  - Remove(char/string)
  - Compare, Contains, StartsWith, EndsWith (Compares against a test string)
  - SubString(int,int)
  - Interpolation using $” ” or Verbatim using @” ”

Data Types



itive-data-types

https://producto-valvo.com/datatypes-in-c-and-net/

Data Types: Bool, Int, Float, String

```
bool truthValue;
truthValue = true;

int number;
number = 12;
number = 12.0f;

float number2 = 12;
number2 = 12.1f;

string word = "hello";
word = "12";


int.TryParse(word, out number);
float.TryParse(word, out number2);
number2 = number;
number = (int)number2;
word = "hello" + number;
```

Data Types: Loops and Conditions

```
for (int i = 0; i< value; i++)
{
}

foreach (type elem in container)
{
}

int i = 0;
while (i < 100)
{
}
```

Data Types: Loops and Conditions

```
int a = 5;
int b = 4;
bool condition = true;

if (condition == true)
{
}
while (condition == true)
{
}

if (a < 5) {
} else {
}
if (a >= b)
{
}
```

Data Types: Int, Char, Float & Arrays[1]

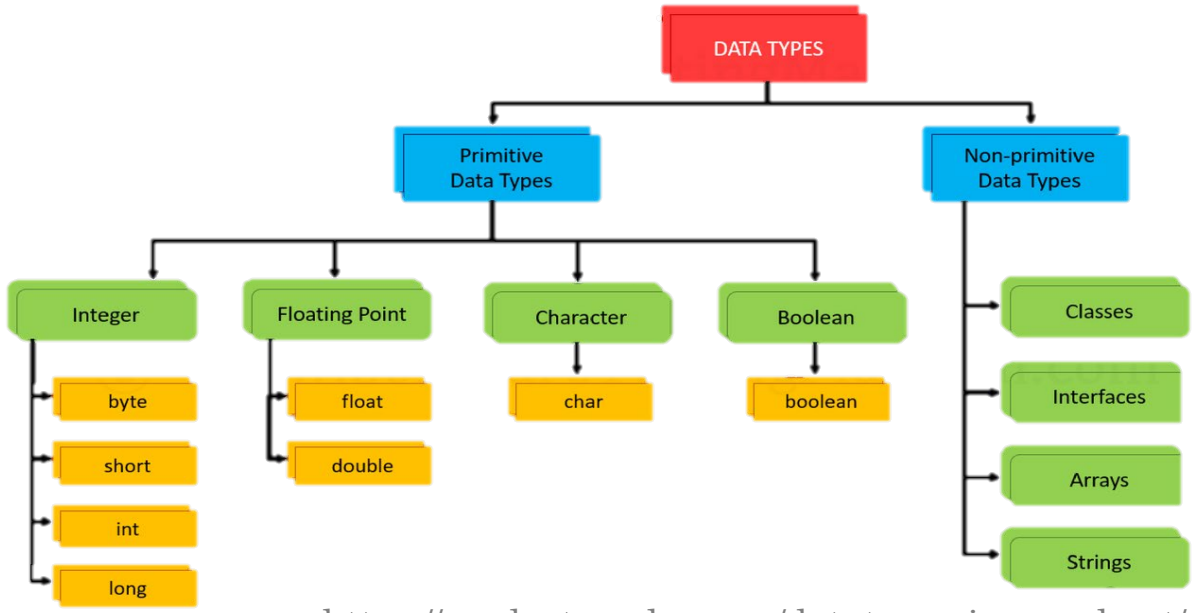
```
string word = string.Empty;
char letter = 'A';
char[] letters = new char[5];
letters = new char[]{'a','b','c','d','e' };

for (int i = 0; i< letters.Length; i++)
{
    letters[i] = 'a';
}
word = new string(letters);

List<char> letterList = new List<char>();
foreach (char l in letters)
{
    letterList.Add(l);
}
```

Reading List

- For further information:

  variables-primitive-data-types

  language-reference/builtin-types



https://producto-valvo.com/datatypes-in-c-and-net/

For Thursday:

- Work on Exercise2
- Look into Self-Study Exercise for Rubix-Cube
- Test and experiment with C#!
- Work through the exercise during the session to get help.