Tips for beginners

[aps]

Meeting 2 - 24/09/2019

Memberships

Membership is officially £1!
(That's the minimum we're allowed to charge.)

Please join up by Week 5

Give the money to Moe

Upcoming Events

Hacktoberfest - All October!
    >More details next week after GitHub session

IEEExtreme - 19th of October
    >24 hour coding challenge.
    >Register by the 7th of October.

Game Dev Society Game Jam - Week 7
    >More info on Week 6.

Visual Studio shortcuts

Ctrl-K-C // Comment

Ctrl-K-U // Uncomment

Ctrl-K-D // Fix formatting

Ctrl-L // Remove a line

Alt-up/down // Move a line up or down

Ctrl-K-S // Surround (good for loops)

Shift-tab // Un-indent

Keyword-tab // Completes things like for loops

Ctrl-space // Show options - tab to select

Choose good names!

Make them descriptive

Make them consistent (eg camelCase, snake_case)

Function names should be verbs, eg DeleteFile

Class names should be nouns, eg Menu

Long names are ok! Autocomplete will help you.

Write useful comments!

Summarize what a class or function does

Explain why you did a thing

```
    // Generates a number
int generateNumber()
{
```

Logging

Lets you know whether your program is working as expected

Can save time debugging

```
cout << "a value of £" << amount << " has been added to " << name << "'s account" << endl;
cout << "Their new balance is £" << balance << endl;
```
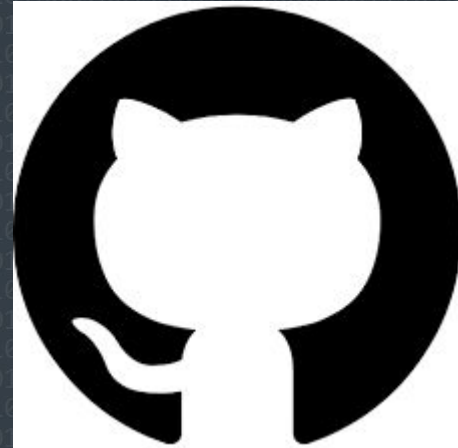
Defensive programming

Prepare for the worst!

What arguments could make a function fail?

```
int increaseValue(int* i)
{
    if (i == nullptr) return;

    (*i)++;
}
```

Debugging

Debugging

https://github.com/AbertayProgrammers/debugging-intro

Download as a zip and extract contents anywhere (eg desktop)

Open Debug Lab.sln in Visual Studio

Lab instructions on Github in the debugging-intro description.

Iterative development

Get each feature working before adding the next one

Test early, test often

Version control

You should always have a backup

Version control (eg Git) lets you rewind to before your code was broken

Come to next week's meeting to learn more!

Paired Programming

2 Coders share 1 computer

One coder is the "Pilot" and does the typing.

The other is the "Navigator" and makes key strategic decisions.

Switch roles regularly (EG between functions)

Paired Programming

Will cause you to explore more solutions to a given problem.

Far more likely to catch defects early on.

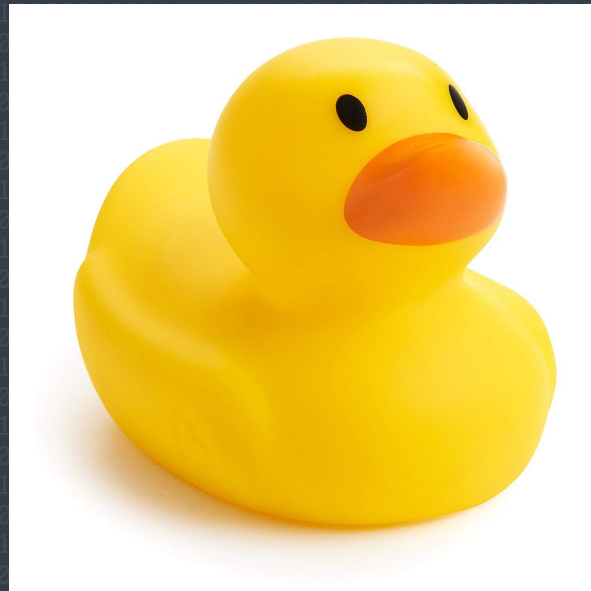Excellent way to practise collaborative communication.

Not for everyone but give it a try at least once - might give you something to talk about in a job interview!

Rubber Ducking

When stuck it can really help to explain your code to a friend/colleague.

If one isn't available just use a rubber duck!

Remember to talk to it like it's actually a person.

Rubber Ducking

Why?

Forces you to actually read your code!

Helps you re-evaluate assumptions that might be wrong.

Will help you catch unnecessary code.

Don't code in the bath though...

Google-Fu

Google your problems!

Slam those pesky error messages into the search bar.

>Use the most specific part of the error.

>Put in the language/program in the search too.

Google-Fu

Google has operators to help you refine your searches.

   >Format is operator:variable

site: search in specific website eg site:reddit.com

filetype: search a specific filetype, like pdf

around() Use this to find pages where 2 or more terms
appear close to each other. EG visual around(2) studio

Google-Fu

Search for a specific phrase by putting parentheses around it.
"Error 3009: Unable to break"

You can exclude words or sites with a minus -
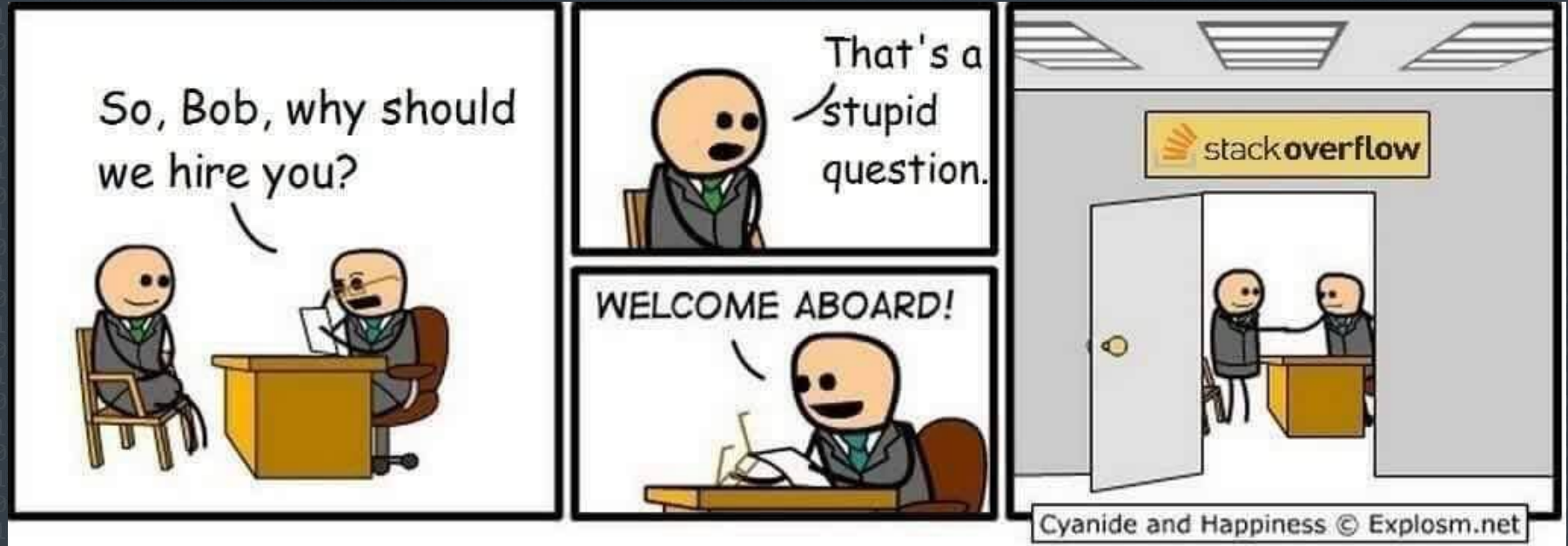
EG duck pictures -pinterest.com

Documentation

Remember your language and coding environment have documentation.

Reading it can greatly enhance your knowledge of available functions and features.

Use google search operators to efficiently search these documents!

ACM Student Membership is $19 - Access to great resources!

Stack Overflow

Cyanide and Happiness © Explosm.net

Stack Overflow

https://stackoverflow.com

If you have a question it's probably been answered here already.

Use site: operator and your error.

Be warned: They hate newcomers so avoid posting until you're sure your question has not been answered before

Mind, Body & Soul

Take care of yourself!

Running yourself ragged will not make you a better coder!

Take regular (short) breaks.

Switch tasks and get out the house from time to time.

Mind, Body & Soul

The suicide rate amongst programmers is the 8th highest of any industry.

All of us will lose a friend or colleague.

Please take care of yourself and seek help when you need it.

We all struggle!

All of us – ALL OF US – get imposter syndrome.

We show off our successes, not failures.

But we do all fail – and that's ok! Code can always be fixed.

This Week's Member Tips!

You can use CSS in println

Being a professional coder is as much about reading code as it is writing code. You'll also need to learn to compromise on your code!

Resources

Humblebundle has regular deals on great book bundles.

Lots of "Learn to Code" websites.

> Udemy

> CodeCademy

"Clean Code" by Robert C. Martin is a good book.

Documentation is free!

Github

Cloud storage for your code!

Used throughout the industry

Exceptionally good way to collaborate.

We will learn to use it NEXT WEEK!

Any Questions?

"He who asks is a fool for 5 minutes. But he who does not ask is a fool forever"

-Mark Twain