“Everybody in this country should learn to program a computer…because it teaches you how to think.” –Steve Jobs

“Whether you want to uncover the secrets of the universe, or you want to pursue a career in the 21st century, basic computer programming is an essential skill to learn.” – Stephen Hawking

“People think that computer science is the art of geniuses but the actual reality is the opposite, just many people doing things that build on each other, like a wall of mini stones.”  
– [Donald Knuth](http://en.wikipedia.org/wiki/Donald_Knuth) (computer scientist)

There’s been a growing sense around the world that everyone should learn at least some code. And experts from business luminaries like Steve Jobs to top scientists like Stephen Hawking and even computer scientsists talk about programming as if it’s something that anyone can learn.

So that’s the claim – anyone can (and, everyone should) learn to code.

But, if that’s the case, why is it that programming continues to be such a…well….non-diverse field?

Stats Alert!

In Australia, women receive over 50% of the undergraduate degrees (56%) but earn only 15% of the degrees in computer science. Workforce numbers are slightly better with women holding 20% of programming jobs. Numbers in the United States are very similar. (58%, 13%, 20%) - though that number is closer to 12% in the heart of Silicon Valley.

The stats get a bit more depressing when looking at ethnic diversity.

30% Asian, 5% Black, 3% Hispanic (male + female)  
  
When I specifically looked for data on indigenous peoples, I discovered that their employment in tech is so low that a percentage could not be given.

Do you get that? There are entire groups of people for whom careers in tech aren’t even an option.

A lot of people have focused on how to get more diverse candidates into the pipeline. From making sure that women and minorities are fairly evaluated in the hiring process, to recruiting from sources other than comp sci graduates to helping encourage more girls to consider computer science degrees in the first place. Google has actually been focusing on this – even having initiatives to work with Hollywood to make sure that there are positive portrayals of female/minority computer programs in t.v. shows.

And all of that is great….

But it fails to address one major issue:

Women and under-represented minorities leave tech at a faster rate than their peers.

I’ve often heard diversity in tech be compared to a leaky bucket…..you can keep dumping new people into the top, but, if they drop right out of the bottom, you haven’t accomplished much…well, that’s not true….you’ve possibly dashed some dreams and made it even less likely certain people will pursue careers in tech.

Kind of depressing…..

But there’s still hope. There are direct actions that you can take to make sure that your dev team is welcoming to a wide variety of people. I’ll cover 3 of them….because 3 is a good number and I don’t want to keep you here all day.

LANGUAGE

…because everyone’s favorite police are the language police

Last May, a prominent Rubyist tweeted that the best part of being in management was being able to set a culture of non-tolerance for racist or sexist jokes. In her previous jobs, especially as a junior team member, there had usually come a point where someone told a racist or sexist joke (usually one they deemed innocuous) and the team would look to see her reaction. Laugh along and you’re a cool team player. Complain and your time there is short.

The tweet storm got a decent amount of interaction (60 shares / 100 likes per tweet). What I found more interesting were the private conversations it spawned. Friends texted and asked if I had seen it. They shared their stories of someone at their work that made them uncomfortable. Of team meetings where they had to laugh along with jokes they felt were inappropriate or demeaning. The very few who had spoken up at best were told “Yeah….that’s how that guy is. Just ignore him.” And at worst were told they were being overly sensitive. Most just didn’t say anything at all. And that’s the thing, whether justified or not non-traditional developers largely felt that speaking up wouldn’t do them any good. Instead, they were all quietly looking for another job. Likely leaving their employers to wonder why all of the diverse candidates they’d worked so hard to recruit kept leaving in droves.

- I’ve been that person sitting in the room when an awkward comment gets made

* + A couple of male executives joking about no longer working with a female client if she didn’t start dressing nicer
    - How that makes me feel sitting there in yoga pants and a t-shirt
    - Does this mean they just think of me as one of the guys?
      * Is that a good thing?
    - Should I say something? I should say something? If I say something am I going to be labeled as a trouble maker?
* Flatiron Rule – If you’re about to say something and that small voice inside says stop – Don’t say it!
  + Good start, but there have been plenty of times and places where it was alright to say some pretty horrible things about groups of people
  + That little voice can be very culturally based
* The “Anti-Cat Photo” party
  + Could say “Check out these idiots who hate cats….are they insane? Who wants fewer cat photos on the internet?”
  + ORRRRRRRR “I understand that
  + One set of language is open, allows room for differing opinions and discussion. The other gives you the sense that if your thoughts aren’t seen as “right” in the organization, you’ll be ostracized.

MENTORSHIP

* The best kind of ship
* <https://hbr.org/2010/09/why-men-still-get-more-promotions-than-women>
  + Women get ‘mentored’ (advice) men get ‘sponsored’ (mentors will go to bat for them with higher management to help them grow in the organization)
    - women explain how mentoring relationships have helped them understand themselves, their preferred styles of operating, and ways they might need to change as they move up the leadership pipeline
    - men tell stories about how their bosses and informal mentors have helped them plan their moves and take charge in new roles, in addition to endorsing their authority publicly.
* People frequently mentor people that remind them of themselves. I don’t think this is done to intentionally. People think they’ll be more help to people whose journey they understand.
* Comparison of Jessica to Dorab (This is Dorab in 2005. This is Jessica.)
  + Obvious (he prefers Star Wars while I prefer Star Trek), N. India/middle of the United State, UCLA for a Ph.D in Computer Science/NYU for a B.F.A in Drama, CTO and technical cofounder of a company/hired to do keywords and ad copy, white woman/southeast Asian man
  + Nothing in common, but when Jessica said she was interested in learning to code, Dorab took her at her word.
    - When the feed file was broken, he taught her how to use FTP to grab the file so she could parse the XML and find the issue. And he wouldn’t let her use Filezilla no matter how many times she insisted it would be faster to point and click. “Learn to use the terminal, it’ll be faster.”
    - When she needed data that wasn’t available in the standard reports, he taught her how to use SQL to query the data she needed from the database.
    - When Standford announced that they were going to be running their Introduction to AI course for free online, he made sure she was signed up for it and assured me that I would be able to do it even though she barely knew Python and hadn’t touched statistics in almost 5 years.
    - When she declared that I absolutely hated recursion and that while I understood it conceptually I just couldn’t get it to work in real life, he nodded in sympathy. The next day, there was a copy of Godel, Escher, Bach sitting on my desk. For those of you that aren’t familiar, it is over 700 pages about how everything in life springs from recursion. I read that monster and learned a whole lot about recursion. I also learned not to whine to Dorab about hating something I really just didn’t understand.
* If you only mentor people that remind you of yourself, your team is going to look very similar

CULTURE

* the things you actually do
  + Mission statements, values, ‘who we are’ pages on websites aren’t culture
* cultural hegemony
  + ability of a group of people to hold power over social institutions, and thus, to strongly influence the everyday thoughts, expectations, and behavior of the rest of society by directing the normative ideas, values, and beliefs that become the dominant worldview of a society.
* In effort to distinguish itself from more boring businesses, a lot of tech culture ended up looking almost exactly the same:
  + Ping pong table!
  + Kegs! Kegs! Kegs!
  + Video games!
  + Work hard, play harder! Woooooooo!
  + If you’re a 24 year old frat boy, it probably sounds like heaven…but, if you’re looking for a

This isn’t a zero-sum game. I’m not a bean counter that only cares about percentages….kick a few white guys out and suddenly the percentages are more warm and fuzzy? No! The fact is that there is room for everyone in tech. By 2020 Australia, at current rates, Australia will have a shortfall of 100,000 , in the U.S. they’re predicting a shortfall of over 1 million.