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June 27, 2016

CS261: Data Structures

Assignment 0

I was born on the island of Oahu in the state of Hawaii, and have lived there my entire life, except for a few years in Oregon and Los Angeles. I previously majored in Political Science. Not because I particularly enjoyed it, but because I was preparing to be a lawyer. I had recently met a girl, and switched from film with thoughts of supporting her and a family raised with her, and I figured since I was good at reading and writing, I should pursue a career that takes advantage of that. Ultimately, I grew increasingly disillusioned with politics and law. I have always been interested in technology and video games. I don't know exactly what I want to do in the technology industry yet, but I feel that computer science is a flexible foundation for a career in the industry.

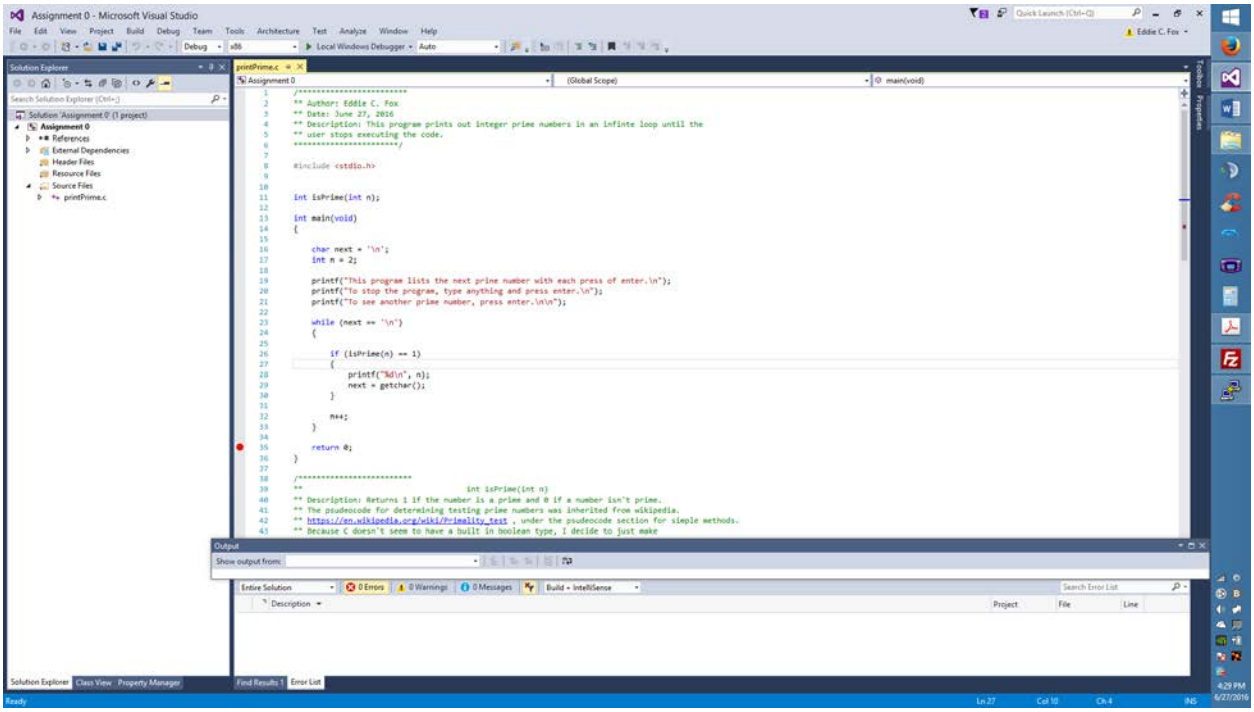
I can't say I'm particularly interested in doing research and theoretical computer science. I've also been more interested in practical applications. Now, I know that theoretical research leads to practical applications in the long term, but for me, I need to concretely see evidence of helping the lives of others. In terms of a career, one of the reasons I am drawn to technology besides my interest in things technological is the utility of technology and its potency in helping others. I see it like modern day magic. I'm interested in starting a family someday, and beyond any career, my goal is to be a good human being that can provide for a family and help others in different ways. A career in technology is a means to serve this dream, though I have found computer science to be enjoyable for its own sake.

I see myself initially starting off as an entry level programmer and coder, before moving onto larger scale, bigger picture software development. By 10 years from now, it would be good if I could transition to video game design. I'm not necessarily the best at coding, but I am very good at understanding and explaining things, and communicating with others, so maybe I would be able to shine in a team of individuals, helping various departments within the video game design to coordinate, etc. I haven't really given the topic of my future as a career enough thought, and am more focused on getting through school first.

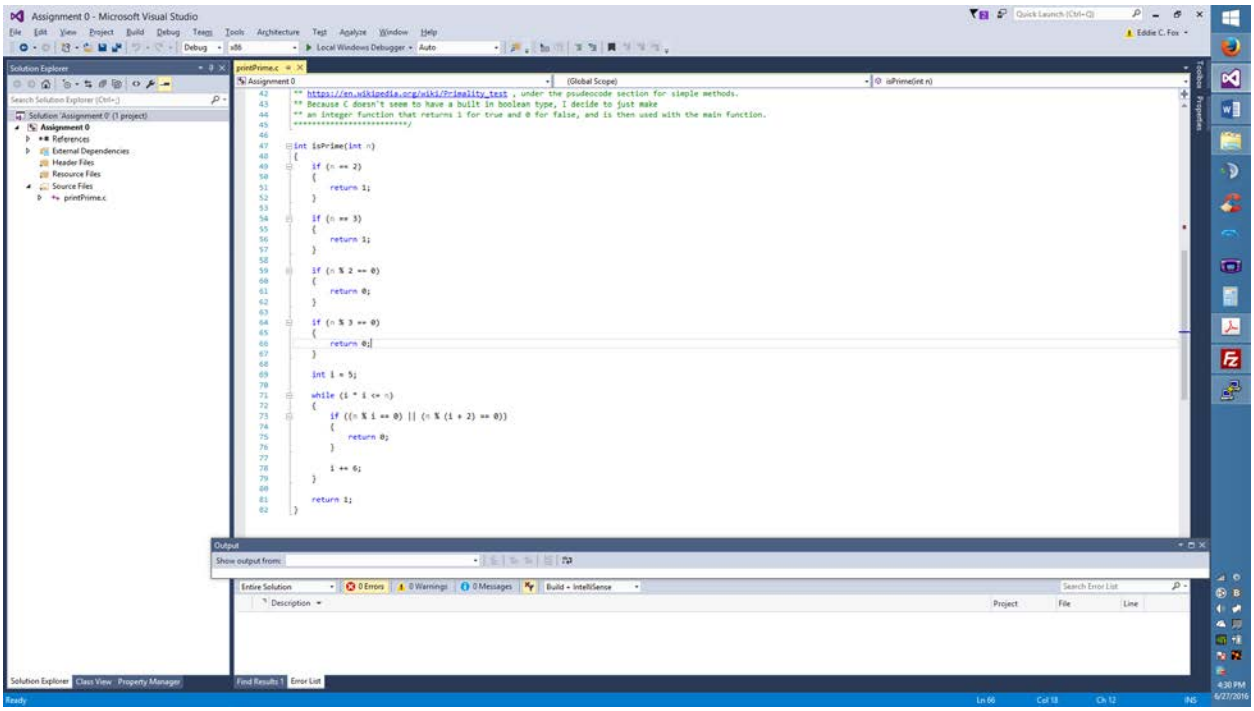
As for hobbies, I like playing video games and spending time with family and friends. . I like Nintendo games such as Mario, Pokemon, and Zelda, as well as PC games such as Overwatch and Terraria. I also enjoy reading a lot of non-fiction on the internet, learning about the world from both humanitarian and scientific points of view. Because I live in Hawaii, it is easy to go to the beach and go sightseeing around the island. I've had depression and nerve pain for the last 1.5 years. My nerve pain has been alleviated somewhat, but I have not fully recovered. On the bright side, my depression is gone, although I still have insomnia issues. I'm hoping to smooth out these issues before the classwork intensifies too much this quarter.

An imgur link to the full album of screenshots for this assignment can be found at: http://imgur.com/a/i0jh3

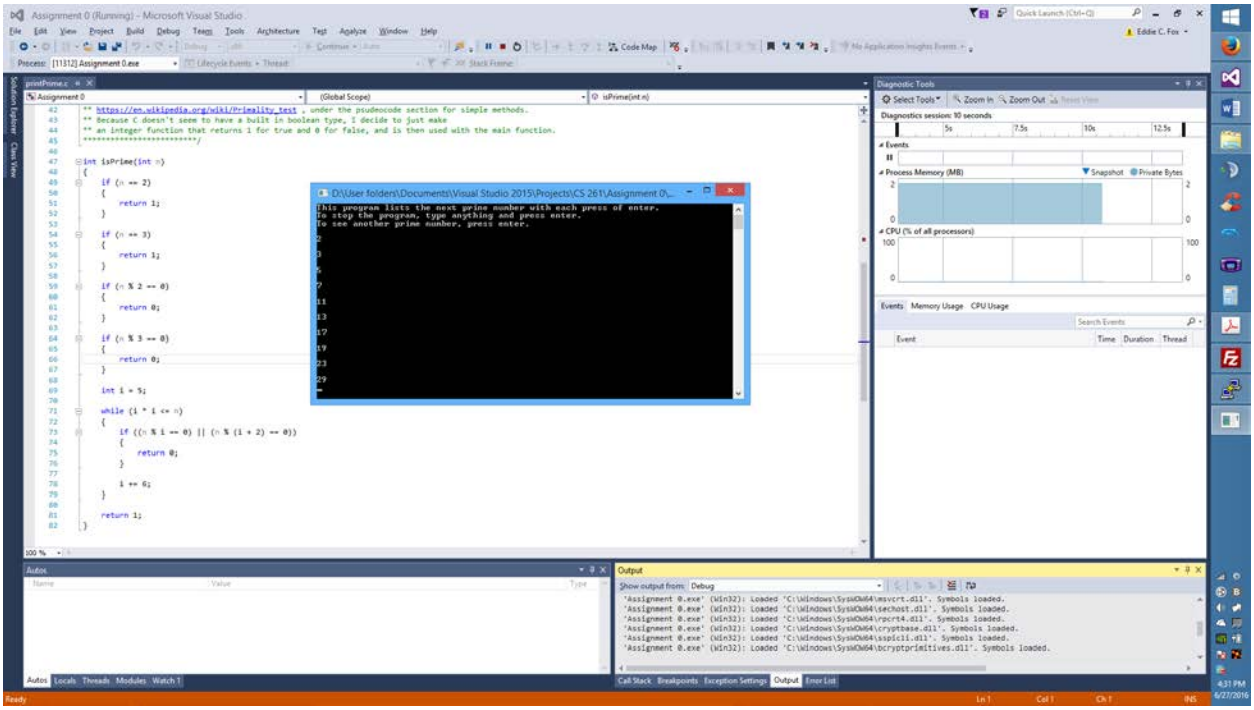
Source Code screenshot Part 1:



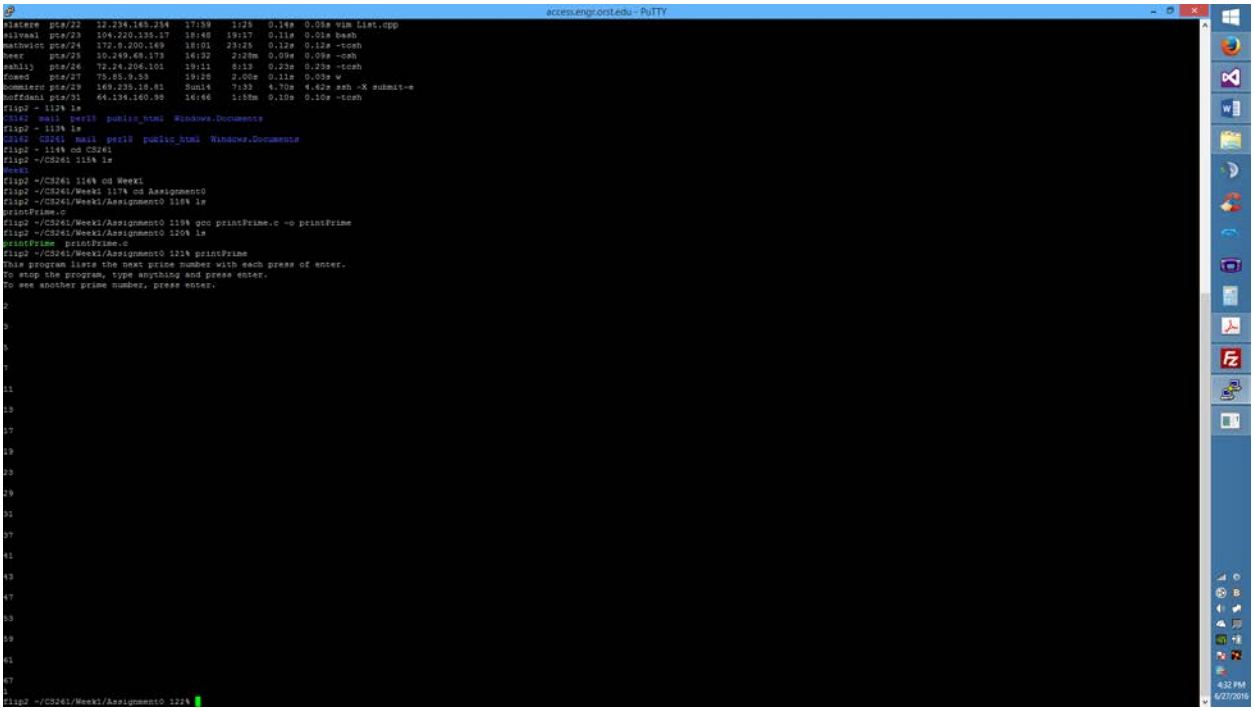
Source Code screenshot Part 2:



Execution in Visual Studio:



Compiling and execution on FLIP server:



Source Code (copy pasted from visual studio):

```
/************************
** Author: Eddie C. Fox
** Date: June 27, 2016
** Description: This program prints out integer prime numbers in an infinte loop until
the
** user stops executing the code.
**********************/

#include <stdio.h>


int isPrime(int n);

int main(void)
{

	char next = '\n';
	int n = 2;

	printf("This program lists the next prine number with each press of enter.\n");
	printf("To stop the program, type anything and press enter.\n");
	printf("To see another prime number, press enter.\n\n");

	while (next == '\n')
	{

		if (isPrime(n) == 1)
		{
			printf("%d\n", n);
			next = getchar();
		}

		n++;
	}

	return 0;
}


/************************

**                                    int isPrime(int n)

** Description: Returns 1 if the number is a prime and 0 if a number isn't prime.

** The psudeocode for determining testing prime numbers was inherited from wikipedia.

** https://en.wikipedia.org/wiki/Primality_test , under the psudeocode section for simple

methods.

** Because C doesn't seem to have a built in boolean type, I decide to just make
```

```
** an integer function that returns 1 for true and 0 for false, and is then used with the
main function.
**********************/

int isPrime(int n)
{
	if (n == 2)
	{
		return 1;
	}

	if (n == 3)
	{
		return 1;
	}

	if (n % 2 == 0)
	{
		return 0;
	}

	if (n % 3 == 0)
	{
		return 0;
	}

	int i = 5;

	while (i * i <= n)
```

```
	{
		if ((n % i == 0) || (n % (i + 2) == 0))
		{
			return 0;
		}

		i += 6;
	}

	return 1;
}
```