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ISAT 252 final paper

We live in a world run by technology. Sadly, it has become impossible to walk around outside for more than a minute without seeing someone glued to their phone, laptop, or tablet. As our reliance on technology increase, I believe it's important to stay updated and learn as much as possible about it as I can. When I signed up for ISAT 252, I had very split expectations. Half of me literally imagined coming out and channeling my inner Steve Jobs; learning to speak code as a second language and becoming best friends with my computer. However, another part of me also had expectations of failure, knowing very well that I was being exposed to such different material then what I was normally used to and, in essence, learning a completely new language with absolutely no previous exposure. I felt very intimidated and feared being in way over my head. However, I'm very happy to realize neither was the case.

After the first day, I got a much better feel of the class, and set more realistic expectations accordingly. I definitely strived from the beginning of the class to challenge myself with this new material, and expected myself to grow and start to look at things in a more detail oriented way. I expected this class to give me a better sense of how much work and detail went into producing code, and give me a better appreciation for the details that went into making websites, apps, and even servers, which it definitely did. Over the course of the semester, my goals became more clear and realistic. It changed from expecting to be a computer wizard, to challenging myself to taking coding one step at a time, but refusing to give up even if it took me weeks to pass just one test (which it did thanks to the Go test...). I also expected to take it upon myself to find the motivation not only to pass the tests, but just to come to class every week. I knew that, at least for me, if I didn't come to class that I wouldn't have grew and attempted as many tests as I did. I also felt more of a sense of accomplishment coming to class every week with a goal to pass a certain test, and it gave me a wonderful opportunity to reach out to other students and get to know my fellow "ISATers", which definitely was a huge goal of mine.

Looking back, I am really proud of the progress I've made throughout the semester and the goals I have completed. I did not expect to pass all of the tests, but I really surprised myself with the amount of tests I did pass, especially on my own, and I felt more accomplished putting in a lot of effort on a tricky test and FINALLY figuring them out. For example, the first test I passed I had to get some help from another student in the class, which was nice to receive help but not as satisfying as passing the first test on my own. When I moved on passing the R test, I put in much more effort and research, and was able to figure it all out on my own, which was a very rewarding feeling, and encouraged me to keep going. I also expanded my "coding language", and by the end of the class I knew confidently how to pull up the terminal (something I didn't even know existed before taking 252), and how to make my way through directories. It's a small start, but it is more than I came in knowing.

I would love to say that I came in expecting failures and walked out having none, but that is not the case. I was unable to complete all of the tests. However, I learned throughout the class how much effort the tests took, and was proud for not rushing through them. Taking your time and actually learning the tests was so much more rewarding than just getting the answers, even if I didn't complete all of them. I also was unable to complete all of the tests alone, but I don't consider that much of a failure either. Sometimes working together with other students, and combining ideas, was the best way to find the way to pass the test. I know these are going to be useful skills I can use in the future. I tend to take on a lot more than I can handle many times, and it's important to realize how crucial working with other people can be. They always say, "two heads are better than one," and I really do believe that that is right in most cases. I also think I will be able to take what I learned about the really making the most out of something and giving it my all, instead of just doing a lot of things at once without really getting anything out of it. It's very important to learn and get something out of what you're doing, instead of just meaninglessly doing something just to get it done.

After taking ISAT 252, I definitely do feel much more educated and enlightened. I knew nothing about coding before taking this class, and I have definitely developed a huge appreciation for those who already know how to code. I was really overwhelmed with the amount of detail it takes to code and the length of the codes themselves. I never even realized the extent of what laptops can actually do, since it was never really something I thought about. I really appreciate how much this class opened my eyes to the work behind our computers. It really encouraged me to invest and learn more about coding.

The style of this course worked wonderfully for me. I really appreciated the stress free environment provided, which made it that much more enjoyable to learn. I know a lot of people can easily take advantage of the "choose your own grade option," but I found it very rewarding. In all of my other classes, I strictly work for a grade, and once I take a test I honestly forget most, if not all of the information I crammed in, in a few weeks time. I definitely feel like a failure when I get bad grades on tests or quizzes, and it discourages me from pursuing those subjects. For example, music is easily the thing I am most passionate about in life. I took a music class this semester just to learn a lot more about the history of music, and deepen my love of the subject. The class had tests that were strictly based on memorization, so I found myself cramming endlessly for them, and turning my passion into work. Since memorization isn't my strong suit, I bombed the first test. I was heartbroken, and I wanted nothing to do with music for a few weeks. I projected that failure onto my own passion, and let it define me. I enjoyed the freedom that this class style provided me to learn from failure and go at my own pace. I am not a person that responds well to stress, and knowing I would be able to go to class every week and learn at a pace that I was comfortable with made me that much more motivated to learn and keep challenging myself. It was also much more rewarding passing all of the tests because I was taking the time to figure it out, and not just being told to learn it, do my best, and then forget it when the test is over.

If I were to take this class again, I would recommend more introduction on the different programming languages, and the different uses for each for practical

applications. I really enjoyed the occasional lecture days to just break up doing the tests all the time. I would also recommend asking people to move about the room every few weeks to meet new students, and get help from different people. Overall, I really enjoyed the way the class was run. I really thought providing a choice between choosing your own grade and the point system was very helpful, especially for those who have trouble with self motivation. I cannot emphasize enough how great it was to have such a stress free environment provided to work on the tests. I really enjoyed the music always played in the background.

I believe I have earned an A in this class, not because it is what I want, but because of the amount of growth and effort I have put into this class. I was unable to complete all of the tests, but I have gained a great appreciation of coding, and have decided it is something I definitely want to keep pursuing. I have already even started to come up with new ideas to explore and encourage me to keep coding in order to achieve these future goals.

## IKM Experience

I fulfilled my goals for myself in my IKM experience. By taking IKM, I was able to gage my interest in the subject again after previous programming experience. I entered the class with an open mind and persistence to learn. I discovered that programming is an important and useful tool and a vital skill for the functions of many companies and organizations. However, I also discovered that it wasn't for me. I will not be pursuing a career in programming at this time but through re-exposure I feel I have gained a positive perspective on its importance in the world. I believe this experience has made me a better-rounded ISAT student.

As far as the way the class was conducted, more motivation would have been beneficial. If the instructor had expressed his passion for the subject more and exercised more leadership, I would have been more motivated to accomplish things and attend. Especially for a morning class, many students get frustrated with approaching a problem by using the trial-and-error method in what is most likely their first class.

As far as grading goes, I believe that grades put unnecessary pressure on students to achieve things that may ultimately distract them from things they are passionate about. This year I have developed a passion for engaging with the community on environmental issues. By committing my time to that as well as exploring other interests, I have spent the time that I didn't spend programming gaining valuable experience and learning in a field I enjoy and believe is the best way for me to help my community.

I would like an A please.

I had several expectations coming into this class at the beginning of the semester. My first expectation was of course to learn the basic aspects and virtues of programming. My second expectation of this course was to gain an overall interest and appreciation for the subject of coding/programming due to programming becoming a vital skill essential to many jobs and industries today. My final expectation of this class was to gain insight on the IKM and decide on whether or not IKM is an interest of mine and whether or not it would be the right decision to sector in IKM. Goal that I set for myself at the beginning of the semester included learning the basics of programming and coding, along with gaining some general knowledge on the subject. My goals evolved over the semester by me losing interest for the subject and not exactly deciding to carry out these goals any longer. To be completely honest and upfront, I know I did not achieve any of the goals that I had set for myself at the beginning of the semester. Even though I didn't achieve any of my posted goals, this class a very valuable experience for me to learn from my failures. I learned the truth about what it really is that I ultimately want to study, and I learned through this that my interests rests in the subjects of either biotech or environment. I also learned through my failures, despite initially having an interest for programming and the IKM sector, I learned that computers are not an inherent interest of mine and that problem solving with computer programs is highly challenging for me and is not something that comes intuitively to me. Moral of the story, I realized through my failure that programming and IKM is not an interest of mine. My failures in this class have also helped me to realize how important it is to be able to do work independently and with the constant assistance of somebody, along with it also reaffirming how important studying and learning material really is. So even though I failed to reach my goals for this class, I feel like I learned some highly valuable life lessons from this class, especially lessons about gaining independence as a person. To be completely honest, I don't exactly feel like I became any more educated from this class, but I do feel a small sense of enlightenment after completing this course due to myself being able to take away life lessons and not necessarily knowledge. I would have to say that this semester was probably the most entrancing semester I've had so far. The reason why I say that this semester has been my most entrancing semester is due to the fact that I was able to decide what it is that I really want to study in the future. I was also enrolled in 212 this spring semester and did not enjoy that class due to it being very challenging and never failing to stress me out. I would definitely say that this semester helped me determine what I want to study in the future; it became clear to me that I do not want to study IKM or energy. Honestly, this course style did not work out very well for me. I'm understanding of this course style can be very effective I personally did not think it suited my form of learning. The primary reason why I thought it was not very effective is due to the fact that I learn much better in an environment where the material is directly stated and taught by the professors. I can learn things on my own, but that mostly dependent on the subject and programming is not one of those subjects for me. I also prefer relying more on my professors instead of my classmates, due to me usually being able to learn better from them than my peers. If I were to take this course again, then I would recommend that the class be a little bit more engaging with more examples of how to write code and work through the

programs compared to just referring to CodeAcademy and other online sources. I would also recommend keeping better track of the students and having a better idea on what their statuses are in the class, so that way you could know what to lecture on in the case that a large number of students are stuck on the same thing. I would like an A for my time spent in ISAT 252 because even though I did not really learn a whole lot about programming, I learned a lot about myself and make discoveries about myself that I probably would have never found out otherwise. This class was essentially the final piece of the puzzle with helping me determine my future with ISAT.

Jacob Spencer

Benton

ISAT 252

7 May 2015

Coming into this semester, I honestly had no idea what to expect from ISAT 252. I had heard some things from some friends of mine regarding your teaching style, but I still could not quite determine what experience I thought I would receive from the class. I could not believe that a teacher would ever not issue any assignments, assessments, projects, or exams—let alone not have an attendance policy! Why would a professor want to teach a class in a way that gave the student no responsibilities to be accountable for? How could he/she actually inspire students to want to learn the course material? In terms of programming, I had absolutely no background in at all. The closest thing I had done to programming was extensive work with computing Excel formulas. I believed that programming was tedious, mindless process that almost anyone could do. I did not think it would require much thought or intellectual skill; if you spent enough time in front of a computer, and reading the basic instructions, it would come naturally. After a few months performing the same tasks over and over again, I figured it would just become second nature. It did not seem evident to me that one had to be truly smart to program. An individual would just need the time to perfect the “basic task.”

In the beginning, I had a very bland, one-dimensional goal for myself: learn “how to program,” get an A. I also wanted to learn how programming relates to me as a Marketing Major? I could not envision how these two, seemingly polar opposite skills could possibly relate to one another. Little did I know, you could not simply learn the ins-and-outs of programming in just a few months. I was overwhelmed to realize how unrealistic my goal truly was. I had no idea of all the various factors and variables there are when it comes to programming. I thought there was only one way to code. A universal succinct way that all the millions of programmers in the world use to make their computer programs. When I learned that different operating systems, like Windows and Linux, required different methods of coding, I was blown away. Additionally, the fact that there were multiple different programming languages as well was crazy to me. With all the different platforms and languages out there, how could I ever hope to master programming? Better yet, how could any individual possibly memorize all the fine details and intricacies of every single form of coding, when I could not even memorize one?

So if you could not already tell, my initial learning objectives for myself underwent a revolution during the course of the semester. There was no way I was going to be able to gain a true mastery of programming and coding. Also, this entire semester was mostly consumed by my daunting and incredibly stressful job search. Much of my work in all of my classes suffered because it had to take a backseat to my ongoing quest of securing a position in a professional business setting. Weeks were completely booked with phone calls, in-office interviews (in places like Northern Virginia and my native Connecticut), career fairs, application submissions, and background checks. When I was able to find time to actually sit down and do school work, my four 400 level business courses, including two capstones, took precedence over this class. As much as I wanted to really spend my time and energy to sitting down and actually gaining extensive knowledge of the course material, I could not allocate as much time as I needed to use

the precious resource to stay as on track as I could in my Marketing courses. My goals by the end of the course were to submit at least one assignment and attend as much class as I could (I would shoot for all three in a week but very rarely did I meet that goal). I had two assignments, PHP and Python that I was working on exclusively but never managed completing them to the point that they were suitable to turn in.

In no way, shape, or form was I successful in completing all my goals. Like I touched on before, there were numerous factors that contributed to that. However, I do feel that I did achieve some success in learning about the general basics of programming and how it relates to me as a future business professional. Programming is difficult. It is something that I would consider to be a complex and useful skill. In business, you work with all sorts of people who are responsible for different facets of a business, and one of those individuals may very well be a programmer. Group work and projects is what run the business world. Very rarely are you working on something that you are doing solely by yourself, or that you do not require some additional assistance or information from another individual. When I am in a management position and I am trying to set deadlines, I need to be very conscious of what my programmer has to say about whether or not he can meet them. Coding can take just a few hours or days but some could be so complex that can take up months of time. From this semester alone, I learned about how you cannot simply expect to get your desired program done in one straight sitting. Routinely, I would run into error regarding things such as my outdated Windows operating system or my issues with my external variables. Sometimes when dealing with code, you cannot perform functions with certain languages or on certain platforms. Your programmer may have to go out of his way to perform extensive research on how to code in a specific language so the company can receive the output it wants. Bottom line, I understand and appreciate what a programmer is trying to accomplish. I will always respect and use his judgment on when he/she believes they can complete the assigned task. I will not rush him to simply meet a deadline; that will result in a poor quality program. I did come very close to submitting my PHP assignment. I believed I had it encoded correctly, but whenever I pressed “Build,” it would not perform the correct output. Had I had more time and not had run into the time-killing buzz saw that is finals week, I would have definitely completed and submitted my PHP assignment.

Quite frankly I cannot escape the truth, I never managed to fully submit an assignment. It is something that deeply frustrates and upsets me. After spending numerous hours of my time to complete a task, just to have it fail on me and not be submittal is extremely discouraging. I truly was enjoying my time working with the program trying to figure out how exactly to achieve the correct output. I spent time working outside of class with Lee Lucas, as we collaborated to help us complete the assignment but unfortunately for me I never achieved the same success that Lee did. The YouTube videos and online blog posts were very useful too, but nonetheless I still could not get the right output. My attendance throughout the entire semester was not as good as I would have liked. Yes, there were a few weeks when I did attend every class, but then again there was a stretch of two weeks when I did not attend a single class. In college, time is your most precious resource and this being my final semester really emphasized that to me more than ever before. Between the classes and job searching, I needed to find time to sleep, and unfortunately sometimes this 9:05 class was the way I was able to get as much sleep as I could get.

If I have learned anything from my failures, it is that I needed to speak with you more when I was in class. So many times when I was outside of class working on my assignments, I would run into trouble and try to solve it through Internet postings and speaking with my friends

or classmates. I like working independently, but there comes a time when you need to realize that you cannot possibly get the best output by your lonesome. You need to be resourceful and seek out help from individuals that are true experts on the subject matter. Needless to say, you are definitely who I would consider to be an expert in what I needed help in. When I would ask for help in class, no matter what, you were always very kind and helped me work through the problem until I could find the solution. It was always a very inviting atmosphere and something I should have taken more advantage of. So many professors you have in college are the opposite of this; they dislike when you come for them to help, and some even refuse to help you thinking that is more beneficial for you to work out the problem by yourself. I did not take full advantage of your assistance, and that I can attest is the main reason why I did not accomplish all my goals. This aspect of resourcefulness is a component that I need to keep with me for the rest of my life as it will definitely be of use to me.

In terms of the enlightenment I achieved this semester, I think I definitely improved myself as an educated citizen. I learned the basics of something I had absolutely no background on. Am I master of the subject, absolutely not. But can I now get a better gist of what some of the problems are that programmers run into trouble with, yes. When in interviews, I always separate myself from my peers by emphasizing my diverse background. I have internationals education experience. I have worked all sorts of jobs and internships that are not limited to my Major, like Finance and Accounting. This newly acquired knowledge may not be something I can put on my resume, but it is definitely something I am proud of for doing and feel that the knowledge I gained bettered myself. I would not say this class has had a significant impact on terms of what profession I choose to seek out, but it has again reinforced that I should always be open to ideas. It reminds me that I never want to just be the, "square peg in the square hole." In life, I need to always be seeking out new challenges for myself, that help educate and enlighten me further so I can become a better citizen of the world. There is never a bad time in your life for you to gain knowledge. Use your brain and always strive to sharpen your mind, so maybe one day you can help someone out or relate to a complete stranger.

The style of teaching this course is administered in is excellent and I would recommend 100% that you continue facilitating your course in this manner. I honestly wish more professors used the same teaching style as you. It is an excellent combination of both independent and group work. You truly are independent, you have no guidelines or deadlines. It allowed me to see what my thirst for knowledge truly is. Whether I am just in school to get a degree or if I am at school because I am a true academic; do I genuinely seek out information to make me smarter or just because I am told to do so. The environment inside the classroom is very loose and comfortable. Everyone is happy to be in class and is trying to help the person next to them succeed. There is not one student who would say that they feel afraid to speak up in class to ask you a question or start a discussion. There is no attendance policy, so everyone who is there truly wants to be there and you definitely get that vibe from all students.

Every student who takes this class says you are dumb if you do not ask for an A. As much as I would like to, I cannot. Integrity is important to me and I do not think that I the output that I delivered was worthy of A level material like some of the work my classmates did. I do believe that with the circumstances that I was dealing with the course load and job search, I did make the most of the time I had. Perspective is something I pride myself on, and I truly believed that it was better for me to invest more of my time in my major classes and job search. I think my attitude I brought to class was very open-minded and ready to work and learn. So, in the end I think I deserve a B and would very much appreciate it if you reported that to the registrar.

Troy Gamboa

Professor Morgan Benton

ISAT 252

May 7, 2015

I have never taken a programming class in my past, so I was not exactly sure what to expect. However, I have always found myself to be interested in computers as my father works as a systems analyst. Since I was a child, I always found myself going into computer games and programs and teaching myself how to navigate a computer, messing around with the settings and trying to make the computer look “cool” or “different”. One of my most notable hobbies is discovering ways to run emulators on various systems, such as pc and xbox. While I never quite understood how these worked, I always thought it would be interesting to learn. So back into this 252 class, I was excited to finally get a grasp on programming, and highly enjoyed the first couple days of class, where we could set up the CLI, as well as installing the software that allowed us to begin programming. The main goals I set were to complete all the problems given though the CLI. At first, it was highly frustrating. But a couple more weeks into the class, I was starting to get a feel for what was needed to solve these problems. I would even try to solve those problems at the most random times of the day, simply because I liked the challenges it gave me. The moment I would get a program to work created a substantial feeling of achievement. For example, I spent quite some time on the hello variables test in go. But after what felt like I was never going to get it, I finally did. Another goal I set would to be to complete a problem by the

end of class. While this didn't necessarily happen, it gave me the extra push I needed, as well as determination. In all, I was looking forward to being sent new problems to complete.

While all of this may be true, the fact remains that I am a huge procrastinator. In this sense, I feel like I failed to meet some of my goal, at the very least in a timely manner. Also, I felt like asking for help on these problems kind of cheated my way to solving it, especially when working on them with others. While this may not be the entire case, I had some idea stuck in the back of my head that I needed to complete them on my own. Soon after, I realized that completing these problems with others is part of the learning process, at least to some extent. I hope to stay persistent and be more open minded in the future to prevent these fallbacks.

In response to JMU's mission statement, I feel that I have been more educated, and have definitely been more enlightened. After we did that brief history on computers and programming in class, I started to really appreciate the outside world and how much of it consists of writing programs. It is not really noticeable unless you are conscious of it, but the path that technology has walked has evolved at an extremely high rate, from using apparatus such as punch cards, to the new Windows 10 Hololens. It also raises the question about where we will be in the near future with technology advancing this fast.

This class alone has pushed me towards sectoring in IKM. I really want to become more knowledgeable in activities such as programming. Because of this, in the near future, I definitely want to focus my career with having something to do with computers, along with something in accordance with my minor, music industry. This style of course, was of course, completely new to me, however, I highly enjoyed the stress-free environment of which was created, and I was still pushed to complete my work, regardless of the class' policies. So, in my opinion, if I were to take it again, the only thing I recommend doing differently is holding things such as out-of-class

meetings to encourage students to work harder. Otherwise, the structure of the class needs no alteration.

In all, I highly enjoyed myself, and became much more interested in the field of IKM thanks to this class. I hope that the material I have obtained can be used toward solving future problems I am faced with further in life, applying to instances such as a senior capstone project. I would appreciate if an A were reported to the registrar. If grades measured the amount of enjoyment and quality of learning that a student experienced in a class, I feel as if this would be applicable to a student in my personal situation.

Madelynn Danhires

Professor M. Benton

ISAT 252

7 April 2015

### Programming and Problem Solving

When I first found out I had to take a programming course I was not too thrilled. I am not the best at working with computers and programming seemed like something I could never wrap my head around. I thought that taking a course in programming would teach me how to be a hacker or how to create my own web page. Since I had little faith in my ability to accomplish these tasks I thought it would be a great idea to take this course with you so that if I could not excel in this particular subject, I would not be punished with a bad grade on my transcript. I realized in this course we wouldn't learn how to hack or create webpages and apps just yet due to the advanced knowledge required to do such things but none the less, I was excited for this class.

I had to change the goals of becoming a hacker that I had originally set for myself, this time I decided I would rather just learn the material presented and complete my work. I started out strong doing the quests you provided in the beginning of the course. I set goals for myself to finish all the hello-world programs and to submit them, as well as the hello-variables problems you created. I enjoyed the course work you provided but if there was more guidelines or dates to let me know where I should be at in the class it would have been easier for me to stay on track. As the year progressed I found the material becoming uninteresting. Learning how to create code just to pass simple tests wasn't the programming I thought it would be. Working with eight different programming languages became very confusing to me and it was hard for me to find a practical use for this since I don't plan on working too much with computers in the future.

However, I did manage to accomplish a few of my goals as the semester progressed. I completed and submitted the hello-world and hello-variables exercises you created for php and python. I also finished the hello-world for r and java, completing half of my goal for those programs. I had a friend help me to complete these but I still had no idea what I did or how I did it. Looking at the problems through sublime, I had a hard time figuring out where to begin when creating the solution. It just didn't make sense to me and the internet was difficult to use for help. I spent hours trying to solve the simplest of programming problems and I would still remain exactly where I began.

My goals remained the same throughout the course but I had a difficult time accomplishing some of them. I failed to complete my goals of finishing all of the hello-world and hello-variables problems, however I did complete several of the exercises and I mentioned previously. From my failures I have learned that attending class is always the best way to stay

involved and connected to class mates as well as the course material. If I had not skipped class in the beginning of the semester I feel as if I could have accomplished all of the goals I had created for myself. It was hard for me to attend since I was not particularly interested in the material and once I missed a few classes, it made it easier for me to decide against attending class. I did not make the most of this class, but I am okay with that because I have few intentions of ever entering the world of working from the command line, I'd rather be outdoors. In the future I plan to attend class more often, even when it is not mandatory because that is my duty as a student here and it will give me more opportunity to collect the knowledge I am here to receive. I did not fully utilize my opportunity to become more enlightened and educated by JMU's standards. I do feel a little more educated on computers and the command line although programming is still a foreign language to me, but I am completely content with that. I feel that taking this course has helped me realized I am not a programmer, hacker or tech kind of person.

I've always known that I would like to work outdoors in the future, I'm more of a hands on person. I thought that since programming is sort of hands on I would appreciate it more, but working at a computer from the command line confirmed my presumptions that I was not a computer-person. Also it further strengthened my desire to work with the environment. It helped guide me in deciding what to sector in as an ISAT major, ruling out telecom and IKM. I've always disliked participating in activities that require a system of trial and error to get the job done and programming is one of those things. It requires a lot of patience and uniquely organized thought that I do not particularly enjoy.

I thoroughly enjoyed the setting of the class room as it was very relaxed and easy going. Although, I would have liked a little more lecture and depth. Having eight languages available for us to begin with created a lot of substance, but lacked the depth I was hoping for. For an advanced course your method is flawless, since student are able to create their own web pages or apps and learn to hack, taking their own approach and soaring with all the resources you provide. I understand that I too could have used these resources similarly but I just couldn't grasp the very beginning of programming which made it difficult for me to do anything in this class. If I had a better knowledge of programming basics I would have more appreciation for the learning community you created. I decided programming was not my strong suit since I could not get any concepts under my belt. I enjoyed your no attendance policy because when something came up I did not have to make it to class, although it did allow me to stop showing up completely which was my fault. It allowed me to better direct my energy towards subjects I was more passionate about, and I would like to thank you for that. I also really enjoyed having you as a professor because you're such an interesting and caring guy. I wish that I had taken the opportunity to get to know you better and spend more time in your class, I just could not find a way to stay interested in the material.

If I were to retake the course there are a few things I would think could have been done differently to promote student involvement in the course. I would have liked to go more in

depth with one to three programs, rather than just the basics of many. I understand that learning different languages makes programming more versatile in the long run but for this course I would have preferred to go in depth with one at a time. If we just worked with one language I feel like I could have grasped the key concepts and practical uses of programming from the beginning. Since I had never had any intro to programing before working from the command line did not come naturally to me and I found it hard to apply what I was learning to any practical use for my future. If we began with hello-world, variables and operate but then continued with that language to write code and complete greater tasks I think I would be more interested and invested in the course. I would also like to receive more lecture at the beginning of the course to better introduce students like me to the command line and different controls. I found it really difficult to pick up especially since the only way to learn was to ask a neighbor for help. I would have been more comfortable receiving a lecture before having to work on my own. I would also have been more comfortable within the community if I had gotten to know my class mates better. I am not the most social being and I believe that a few activities requiring mandatory student participation could help us to become better acquainted with one another, creating a more connected learning community. One last thing that could have made it easier for me to stay on track would be some sort of attendance policy. Your class has absolutely no guidelines and I enjoyed that to the greatest extent, but I feel implementing one or more of these recommendations would make it easier for students like me to stay involved in you ISAT 252 class. I did enjoy everything about your course, these are just ways that would have helped me personally stay involved in a course with this set up.

I have acknowledged that fact that I did not perform to my best ability in your class and I know exactly where I went wrong. I have thought about the mistakes I made in the class and what I would have done myself if I had taken the class over again. I would probably force myself to attend class even though it is not mandatory. Attending all classes would help me become more involved, as I would be immersed with my class mates. I would also aim to be more social in class because in your learning community using each other is the best resource. I also would have liked to get to know you more as a professor and a person. I am so glad I had the opportunity to take this course with you because even though I was not that great at programming I don't have to let that bring down my GPA. There is no greater gift you could give me than an A in this programming course. Although I did not work as hard as I could of, I am proud that I at least got through the basics of a few programming languages since that is something I never thought I would be able to do. I agree that being forced to take a class in a subject that you're not interested in or talented at can be very challenging and I'm glad that you made this class simple for me. Thank you Professor Benton.

John Parks

Narrative reflective Essay

May 6, 2015

At the beginning of the semester I had a couple expectations coming into this class. The first expectation I had was to learn basic programming knowledge. With the basic knowledge I wanted to be able to write some programs. Another expectation was I wanted to get to know more people in the ISAT major since I just switched majors from engineering this semester. The last expectation I had was to learn more about myself as student and as person.

I had a couple of learning goal that I had set for myself when I first entered the course in January. One of the goals was to understand what a computer program is in its basic form. Secondly, to understand what programs do when they are executed. The third goal I had was to have a set off basic programming skills I could apply in an environment outside of school. Lastly was to complete most of the programs available on exercism. As well as the learning goals I had, I also had the goal of trying to attending most of the classes and not miss or skip many classes. Going into the semester these were the learning goal I had for myself but however they change over time during the semester.

My goal slowly started to change over the duration of this semester. Over the semester, I started to lose the drive to complete work provided on exercism. In the beginning of the semester when I still have the drive to do work I was set on achieving those goals I had set for myself but it changed over time. Towards halfway through the semester as the motivation to do work decreased, the goals I had started to become smaller. By the end of the semester, I had changed my goal mainly just to go to all the class each week and attempting to work on a program if I did not have to work on another assignment for another class.

I do not feel that successful in learning the material of this course as I hoped to have been in the beginning of the semester. The lack of successful came from many reasons. One was I had lost the motivation and drive to work on the programs. Secondly I was not the greatest at programming. Over the semester I only wrote 6 working programs. To me that is not being successful for having a semester to learn and write programs. The last thing I feel I was successful about in this course was to meet new people in the major. Another thing I do feel I was successful in was learning more about myself and finding out what I wanted to do going forward in my student career and in life.

After reflecting on what I did this semester in class I do feel that I failed to achieve some goal but did achieve some. Trying to attend most of the class over the semester, I feel that I had achieved only missing a handful of them. I also gained a little of knowledge into have a program works but not a full understanding of. I didn't not achieve the goal of completing most of the assignments on exercism.

After looking back on the semester and the failures I had, I feel that I can attempt to improve on them. One of the biggest issues I had over the semester was finding motivation to complete the course work in this class. If I had an assignment in another class that was for a

grade, I would just put off doing work for this class and do the other work. Another issue I had was working on a computer I get distracted quite easily. I would try to research how to solve a coding problem but then find something more interesting than trying to write a program. An additional issue I had was making it to Friday's classes were sometimes more challenging than coming to Monday or Wednesday classes. These were the issue that contributed to the lack of my success in this course.

To work on these issues moving on in my school work and work ethic as a whole I plan on trying to find some kind of motivation to learn the material of the course. Another way I plan on trying to be more successful in a course like this is to limit what I can and cannot do on my computer when I'm working on course work. Having full access to internet allows me to wonder off on a tangent idea instead of the original reason why I was on the internet to begin with. The last part of the plan to help solve the issues I had, is to change what I do on Thursday. Since the main reason coming to class on Friday morning was a struggle sometimes is due to extracurricular activities I took part in on Thursdays. I feel if I am able to implement these changes I would be more successful in my studies and work ethic as a whole.

With the JMU's mission statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." I do feel a little more educated and enlightened. With education being the main reason for coming to college. I feel that there are two areas that you are being educated in when you come to a university/ college which are educating and learning more about yourself and academic education. After each semester I have completed in college I have become more educated in what I am capable of doing as a person and the academic knowledge I have gained. Even though I did not learn much about programming from this course, I did learn more about myself. Going forward now, I now know how I would perform in situations like this course and what I have to do if I want to be successful. Now going to the enlightened part of the mission statement, I do feel more enlightened. As I said before about education in college, enlightenment I feel comes from experience. By putting myself in different situations and going out and doing things, I am able to gain knowledge and experience in life. By doing so I am able to be enlightened on what will work in life and what will not work. With being said, I was enlightened to see that without having a traditional course setup with assignments being worth a certain percentage of a grade, I lose motivation to complete work. But now knowing this I can alter what I need to do in the future. By gaining this experience in the course and in life as a whole I now know what I need to do as a person to better myself and become a better me. I think sometimes in life, failure is the best teacher and motivation to do better.

A lot has happened over the semester, mostly good but there are some bad things that have happened but all have helped me to know myself better and what I want to do in the future. Before this semester I was an engineering major and switched to ISAT. As a student I did not know exactly what I wanted to do once I graduated from JMU. Now after this semester I have a better sense of what I want to do. I realized that I'm not the best at programming, so I now know to go into a field that relies heavily on programming computer. I have also learned that if I put my mind to something, I can make it happen. Next year I am going to be the Vice president of the ski and snowboard club. I worked all year to get that position. So knowing that, if I put my mind to something I can make it happen. At this moment in my life, I know that I want to pursue more into the manufacturing and engineering part of ISAT. I have learned that sometimes grades do not tell the whole story of what you have learned. It is more of the experience that can tell the whole story.

This style of course work does not work me. I somewhat knew at the beginning of the semester, there might be a small possibility that it was now going to be beneficial to me. In general I am a procrastinator with school work. I tend to put everything off until the last possible moment such as semester long papers, lab notebooks, general daily assignments, studying, and the list could go on. So having the entire semester to just work on programming and not having a grade linger over me was not the best for getting work done. I feel like this may have been due to never having a course like this and have the freedom to work when I wanted to.

There would be something I would recommend that you continue to do and something to do differently. I do like the choose your own grade system. I think it allows people to have the opportunity to take a class that they do not know much of from the being and determine if they want to continue with it or realize it's not for them. Also if it is not for them it does not hurt them in the long run with GPA and credits. I think it would be cool if we could have done a group project with a real world application to it. Since working in a group, I have the pressure and incentive to do work and not let their group members down. Another thing I would change is reduce the amount of programming languages to learn. I thought it was difficult to go from language to language when working on different programs.

I would like for you to report to the registrar an A. I would like for you to report an A because as I may not have learned that much about programming, I did learn more about myself as a student and a person in society. From the mistakes I made in this semester I can apply the experience to other events going forward. Also with the amount of programming knowledge I did learn I am now able to understand the very basic principles behind how a program works. I also learned what I want to continue to pursue in my academics and what I do not to going forward into the future.

ISAT 252  
Alec Barney

Throughout the semester I learned how to do test driven coding, but before writing code in order to pass the test I had to learn how to use the command line. The command line, also known as terminal, is a way for the user to interact with a computer program and give it commands though. Most commands that were run on this were for directories using the path variable. A simple example is shown below.

```
Harolds-MacBook-Pro:~ Alec$ cd ~/exercism  
Harolds-MacBook-Pro:exercism Alec$
```

The first command is used in order to change the directory (cd), the (~) is used to reference to my home directory, the slash (/) separates the directory (exercism) that is saved within the home directory.

Exercism is the directory in which all of the tests and codes that were written throughout the semester were saved. Exercism includes exercises for multiple languages, they were; Go, Java, JavaScript, PHP, Python, R, Ruby, and Swift.

Three different types of exercises were available for each language. The simplest, "Hello, World!" was the first type that was attempted. PHP was used as an example for the class in order to get us started thinking. During the example, how to use the command line in order to submit exercises, shown below.

```
Harolds-MacBook-Pro:~ Alec$ cd ~/exercism/php/hello-world  
Harolds-MacBook-Pro:hello-world Alec$ exercism submit hello-world.php
```

The goal of "Hello, World!" was to get the program to output "Hello, World!", while passing the test given for that program. I completed "Hello, World!" in PHP, R, Python, JavaScript, and Ruby.

The next step was to complete, the next type of exercise "Hello, Variables!" In "Hello, Variables!" the goal was to get the program to say hello to a defined variable. So we were no longer telling to program to just output something, it needed to reference to the variable in order to pass the test. I completed "Hello, Variables!" in PHP, R, JavaScript, and Ruby.

The last type of exercise we completed was "Operations." I did not submit any of these to the exercism website for nitpicking, but I believe that the one I completed are correct. I had trouble with downloading the packages needed in order to run this test on the command line. I completed "Operations" for PHP and Ruby, but did not submit them. "Operations" included constructing arithmetic and logical operators such as addition and AND. Languages come with a set of built in operators that were easy to locate online to complete this exercise.

Coming into this class I was skeptical for many reasons. One, I had never taken a class where you get to choose your own grade. The idea seemed liberating, yet I knew that I might struggle with the concept as far as keeping myself motivated and interested in the material without having the incentive that grades provide. Second, which proved to be my ultimate downfall, was the lack of a properly working laptop.

About a month or so into fall semester my MacBook Pro began freezing randomly, forcing me to shut the computer down. As weeks went on, the problem worsened with the computer freezing within minutes, sometimes seconds, of me attempting to utilize the very costly piece of machinery. Take make matters worse, after the computer would have its meltdown and I would try to turn it back on but instead of coming back to life like a 13-month old, \$1,250 piece of equipment should, it would beep three times in a consecutive pattern, forcing me to hit the power button once again. The one year-warranty I had proved completely useless because the problem started occurring about a month after a year since the purchase had past. So I took the computer to Blue Ridge Mac. They ran diagnostic tests for a week, attempting to "break" the computer, or getting it to freeze like it had for me so many times. However, no problems came up on the tests and they told me that everything seemed to be in working order so I took the computer back and gave them \$60 for telling me that nothing was wrong. This was not the case. The computer continued to freeze and beep at me so I took it back to my good friends at Blue Ridge Mac. After running more diagnostic tests for about a month, they reckoned that it may be the RAM causing these problems. So they tested the RAM, trying to figure out what stick was the culprit. Finally, they said they had found the bad one and replaced with a new one, for a fee of \$40. I rejoiced thinking that my computer was finally fixed and I would be able to use it regularly. Once again, that was not the case. The computer worked fine for about 18 hours and then it went back to its old ways of freezing and beeping. Since that point it has sat in my room, with me turning it on occasionally and hoping for a new result and getting the same one. Luckily for me, JMU provides its students with plenty of computer labs. Also, at my job in the Graduate Psychology, I have a computer at my disposal which I used extensively to work on papers, online assignments, etc.

At the start of the spring semester I switched my major from Kinesiology to ISAT, a change I am very thankful I made. ISAT has peaked my interest much more than Kinesiology ever did and I have thoroughly enjoyed the environment that ISAT and its teachers and students provide. As far as my learning goals, my main one was to enjoy school. Though it's been stressful at times, I can honestly say that this has been my favorite semester at JMU. The classes I've taken have been informative, while also challenging. I feel successful in the way I have approached my classes and in the way I've achieved in them. I definitely feel like I have been enlightened. Through all the experiences during this semester I have gained knowledge and it's the first time that I feel old. Old in the sense that I have responsibilities that need to be taken seriously. Old in the sense that my life is starting to take shape and that the future is closer than it

seems. My first two years at JMU have absolutely flown by and it's hard to believe that I'll be out of here in another two.

My activities this semester have helped me gain a better grasp of what I want to do in the future. Future career plans are still an unknown but I can say with confidence that I feel like I'm now on the right track to achieve my goals, whatever they might be. As far as this course goes, I am thankful that I get to choose my own grade though I don't think that the style really worked for me. Unfortunately, the idea and use of grades has been such a central part of my school career that I have become reliant on them. That sucks. It sucks that a job well-done doesn't feel well-done without the justification of a letter A through F. If I were to take the course again I would hopefully have a working laptop so I could actually participate.

I would like an A in this class. That grade is not a good representation of the work I put in the course and honestly I don't really deserve it, but my GPA could use the help.

Sincerely,

Jack Shea

*Owen*  
Joseph Thatcher  
Reflective Essay  
5-6-15  
ISAT 252

My expectations coming into this class were very broad. I didn't really know what to expect. I've taken ISAT 100 and enjoyed the class, but only took it because I needed it to fulfill my GEN ED requirements. Christian told me about this class and how it was a relaxed, easy A. But I also thought that there would be more discussions and debate about problems and how we could solve them. I heard you were a good teacher and kept your students engaged throughout the class. I also thought that we would have free range to pick a topic that we were interested in and just run with it. I am a business major and have had slight experience with websites, but I wanted to learn how to create and manage a successful website. Honestly, I didn't really set any learning goals. I wanted to understand the basic keystrokes of code and how to "survive" if I needed to do any code or have a conversation with anyone about code. My goals didn't really need to evolve because they were so basic. I have found out that I don't like code. I'm a slight perfectionist and when the code wouldn't work, I would basically ask for the exact help. There wasn't learning of actual problem solving for me because I don't enjoy code. I felt successful in the codes we accomplished and the badges we received since that was an easy way to record success. I believe we did four different languages successfully. I also experienced my greatest success in teaching my other friends how I finished the languages. It was cool to understand something and help my peers finish it. In most college classes you do everything alone, and even in groups you end up doing your part and pooling it together in with everyone else. Helping them finish a language was definitely a great feeling of success. We didn't finish all of the languages because of laziness. We started off strong finishing one or two a week and then the semester got more difficult in my other classes and I chose to slack in finishing the languages. Most of them were difficult and the guys I usually worked with either didn't show up to class or we had more pressing matters in other classes to finish. All classes are worth the effort. I am paying for an education and even if my focus is on business school, I need to finish strong with the remaining electives I need to graduate. School is important, whether it international management or geology of rock systems. From this semester I feel more enlightened, not from this class. This semester was tough, but it was the most enjoyable. I was finished with COB 300 and actually apart of the business school. I enjoyed all of my classes and was able to start learning and applying things in these classes that I have wanted to do since becoming a duke. From these management classes I have learned that this is exactly what I want to do. I love people and networking and forming relationships. I want people to feel empowered, perform well at their jobs, and make a difference. That's the manager I want to be. I have seen poor excuses for managers and know I can do a better job treating my employees. I have an internship this summer and that has been a blessing. It's with the company my dad has worked for 19 years. It's a great opportunity to learn and grow and maybe be apart of something greater when I graduate. Honestly, this style of class was not good for me. If it were in the business

school or applied more to business situations, I think I would have loved it. It allowed for freethinking and not to be depersonalized by grades. However, it reminded me a lot of socialism. It took away all drive for me. I honestly don't enjoy programing or the ISAT field of study. It took away the desire to achieve, because there were no repercussions. It was a great class for an elective. The people in the class that wanted to learn did. The people who didn't care didn't show up. I knew I cared enough to show up and do the basic tasks, but I didn't try to stretch or grow my understanding, because I wasn't passionate for it. I did really appreciate the peer learning and light atmosphere, but I did not spend my time trying to excel, because I didn't have to. The semester started off strong. Most students were coming to class and accomplishing goals. However, after spring break it seemed like most were done trying and you stopped engaging as much. There were a decent amount of days you were late and sat on your computer. One day you didn't even show up. Now I can't fault you, because I did the same thing and completely understand, but I think it changed the culture in the class. The drive to succeed was done for most people because we all turned into social loafers. I'm not upset, but the engagement was lacking and I think people saw that from their peers and you. As college students we have a lot of pressure to achieve and strive for excellence, at least most of us do. Most of the students are passionate about their fields of study, but these electives we are just looking for the easiest A to help our GPAs. That's what this class was for me. It was a way to get by and allow for more time worrying about business. I do appreciate the style you have created, but I think you need to address an attendance policy. With that they would have to show up and just being in the class would allow for room to grow, maybe not in programming, but in being an asset to the class. The class was computer programming and problem solving. I would have enjoyed more problem solving than just following instructions on how to accomplish simple tasks for 8 different languages. With the ease of atmosphere from not worrying about grades, I feel like discussions on worldly problems would have been great. There were a lot of different backgrounds, interests, and cultures in the room and it would have sparked some interesting points. I would like you to report an A to the registrar. I attended most classes, taught others, and accomplished tasks throughout the class. I appreciate you honoring your side of the bargain and wish you the best of luck at JMU. Thanks for changing things up in the college world.

Scott Weinstein

End of semester meeting

Coming into Isat 252 I wasn't sure what to expect. I was kind of nervous to be honest. The majority of my experiences fell inside the college of business, in more traditional classroom settings. The idea of taking an isat class was brought up by my friend Brad. I was always intrigued by programming but wasn't sure I would be good at it. When I was informed that Professor Benton's class is choose your own grade, it became clear that this was the perfect vehicle to see if coding is for me.

My goal early on in the semester was to learn as much coding as possible while maintaining a solid gpa in my other classes. As the semester progressed the workload from my other 5 classes became extremely overwhelming. It got to the point where I had to evaluate whether it made sense to utilize isat's class time to study for other classes. The pressure of needing a certain grade to advance in my finance degree requirements made those classes more important and worthy of my time.

While I don't think succeeded in my original intention to complete this course like any other and give it enough time to evaluate whether I enjoy coding or not, I would still call this semester a success. I excelled in many of my finance classes and was able to utilize those skills along with my sales experience to land an internship with Amazon. However, I did bail out on isat far too quickly. I don't regret my decision to not attend classes, with the stress I already had from other classes I'm not sure I could've handled more work.

I feel like I learned a lot about myself this semester. I learned that I truly love finance, I also learned I don't do well with ambiguity. Unfortunately, the style of teaching in class didn't resonate with me. I feel like I very much needs structure in order to succeed. There were points in the beginning of the year that I felt so lost. Trying to intuitively understand coding and programing language is difficult for me. In my attempt to learn to code I used many hours of tutorials on codeacademy.com. I found those to be more helpful. It's become very apparent that I work best in a structured environment and im glad that I learned this now.

I feel more educated at the end of the semester. I think there is an intelligence in knowing what you don't know and also knowing what you're not good at. I also loved learning introductory Italian. I learned that within finance id prefer to work on the investment side t=instead of the corporate side of finance. This semester I took 2 days off before spring break to travel through Barcelona with a friend of mine studying abroad. I learned more about myself in that trip than I did in any of my classes. Seeing the lifestyle of the Spanish made me reevaluate what I wanted to do with my life. I loved how everyone during the middle of the day relaxes

and spends lunch with their friends and families. It just seemed so much less stressed than the average American. It made me question whether I want to go into investment banking or another high stress, long work week career.

All in all I don't think I could take a class that's set up with so much freedom. Since the beginning of my schooling I've become accustomed to a more monkey see- monkey do style of learning.

I appreciate all the time you have taken reading this and in our conversations this semester. You are incredibly interesting and engaging in conversations. If I ever see you out I would love to buy you a beer and discuss anything.

Lastly I would like an A reported to the registrar.

Reflective Essay  
Hunter Lambert  
ISAT 252

As a senior Accounting major who needed to take 19 credits this semester in order to graduate on time, coming into ISAT 252 I had very positive expectations. I had only really heard about the class from a few fellow classmates who had taken it in previous semesters. The first and most appealing thing I heard was that ISAT 252 was useful for Accounting and CIS majors because the problems you are introduced to in class could be very applicable in your career if you run into computer problems or need to look at coding for any reason. The next thing I heard was that you choose your own grade and attendance isn't mandatory. After hearing these points I immediately wanted to get in the class. I've never understood people who skip classes. As an out of state student, I/my parents are paying about 75 bucks a class so I never thought motivating myself to at least come to class would be an issue. However, I liked that in the case that I may get overloaded with other classes' work, I could prioritize my major classes without being penalized. So overall, my expectation for the class was to always be there with the goal of gaining useful technical skills.

If my memory serves me correctly, these expectations stayed true for at least the first month or two. The course design of usually learning from other students/Google was new for me, but a challenge that I gladly accepted. I also liked the availability to work on all the projects either at home or in class. I successfully learned to be resourceful and learn in ways other than asking the professor the majority of the time. Unfortunately, towards the middle of the semester, I slowly

saw my motivation tapper off and eventually stopped regularly going to class for a while. This is where I feel I failed in the class. Several factors played into this. One was simply that other classes' work picked up and late library nights and the rare opportunity to sleep in made it harder to go to a 9am class. But that's a bad excuse. I think the real reason was that I wasn't seeing enough return on investment of time through the peer/Google taught class structure. I think I learned a lot about how to learn, but wasn't getting as many technical skills as I had originally hoped to get from the class. As an Accounting major I place a lot of value on learning technical skills. Additionally, learning from other students taught me what to type into the programs, but didn't really teach me the reasoning and logic behind how everything worked. So in the end I would say I didn't accomplish my initial goals very well, largely due to my own lack of self-motivation and laziness which I had rarely seen from myself before this class. It's a harsh reality to accept that a pointless letter grade is more motivating to me than purely learning to learn.

Fortunately, towards the end of the semester I started making an effort come to class and I ended up achieving other goals like learning to problem solve, being resourceful on my own, and to monitor and fix my motivation when it starts to slow down. All of which I think could prove to be more valuable than the technical skills I was initially seeking. Fixing my failure of loosing self-motivation but I think I made solid progress on it by the end of the semester.

Do I feel more educated? Enlightened?

I definitely feel more enlightened on new teaching/learning styles after this class. I feel that I can go learn how to do just about anything on Google due to this

course. As far as educated, I do think I feel more educated, but I would say enlightened is the more appropriate term. Either way, JMU's Mission Statement was accomplished for me through ISAT 252.

I regret my lack of continuous and regular attendance for this class. I still think it's a huge waste to skip any class, especially considering how much each one costs. In the future I hope I'll keep this experience in mind and be sure to take full advantage of any opportunity to learn something new.

As stated above, I think this class style was not a good fit for me if my goal is to learn as much as possible, as efficiently as possible. Unfortunately, I am dependant on the ulterior motive that grades provide when it come to really pushing my-self academically. But also as stated above, this style did effectively teach me a lot of other things about myself and how I should look at learning in the future.

I would like an A in the class.

Thank you very much for being an excellent and dedicated professor. I have a genuine appreciation the fact that you're willing to experiment with an innovative and uncommon class structure. I believe this course gave me life lessons that I otherwise would not yet have. This course invaluabley questions the monotonous typical idea of a classroom and valiantly enlightens the students lucky enough to take part in it.

Dr. Benton,

My expectations coming into this class were to learn about the same if not more about what I already knew about coding. I already knew Java coming into the course so I found coding and the ideas behind it pretty simple through this course. I enjoyed learning the beginnings of various languages and came to the realization that though there are many different languages, the structures are very similar.

Learning goal I set for myself this semester where to finish all the coding assignments and to go more in depth in the various languages on my own time. Other learning objectives consisted of showing up to class and helping others, of which both I fulfilled. During the course I was able to finish all the assignments, but after I finished, I wasn't as motivated to go more in depth in the various languages outside of what was required by the course. I tried to work on and understand the languages and programs used for coding, but I didn't stress on this too much since it wasn't required. I did use code academy to excel in the available languages, but my motivation slowly dwindle as the semester came to a close and other classes became more time consuming.

There are many ways in which I feel successful with the work I finished in this course. I was able to finish all the programming assignments within the first three months. It became a game for me to finish them as fast as I can and I thoroughly enjoyed it. I found myself wanting to code rather than work on other assignments from classes I was taking. It was fun to surprise Benton, especially with finishing the operators the night they were put up, before they were even addressed in class.

The areas in which I feel as if I failed was staying on topic with coding after I had completed all the assignments/test cases put up. With other classes requiring a lot from me and a lack of time management on certain occasions, I would find myself doing other class work as I was done with what was necessary. However, if someone wanted help with any coding assignments, I would drop what I was doing and help as it pertained to the class.

The one aspect of class I failed in was doing other assignments that I didn't finish the days before that didn't pertain to ISAT 252 in ISAT 252. To fix this problem of doing other class work in class, I will learn to manage my time better and not procrastinate on assignments, basically do the assignment the day it was assigned or the night before it is due depending on the size of the assignment. I was motivated to do work at the beginning of the semester, but once all the required work was finished, my motivation dwindled.

Because of this class, I do feel more educated and enlightened. From this class, I re-found my love for coding that I lost in high school. I realized that the structures used in other coding languages are very similar to each other, or at least at the basic levels of that code. I wish I would have pushed myself more during the semester to push further than the class required me to do in the languages, rather than stopping and only making my focus helping those in class. I realized that I had a knack for coding and it pushed me to apply for internships pertaining to coding, even internships I thought were out of my reach. Because of this push, I got an internship doing teaching kids and spurring a love for coding and STEM related topics early on in their life. I also became project lead in a app development group, though it may have been far outside my range of knowledge, it has given me an activity to do all summer and become more educated through research and books. Because of

my love for coding I have started exploring other computer related topics such as telecommunications with the help of my Dad who's a Network Engineer. I plan on using his equipment during my free time this summer to set up routers and ask him any questions pertaining to what he does so I can be more knowledgeable when fall comes around.

Many things have detracted me from doing work, but that is only after all the programs for this course were completed. My courses alongside work put a good deal of stress on my schedule because they were making me waste my time on meaningless, time consuming projects. Work on the other hand limited my free time during the weekends, so I tended to be off track during the week.

I really liked this course. It allowed me to work at my own speed as long as there was still work to do. It allowed me to reinforce my learning by teaching others and learn how to teach to some degree. It also allowed me to get to know more people within the class and the ISAT major through teaching and overall talking.

I would like an A because I'm special (not really haha). I also think I obtained an A in this course because I finished everything required within the first 3 months, even before you said they were up, and was helpful to anyone who requested my help. We talked in class, it was nice (Paul). I really enjoyed every minute of it and I hope to see and have more casual conversations in the future and I know I will mwhahaha. You are stuck with me!

Sincerely your loving, insane, and dorky student,

VICKI Wilson

## **ISAT 252 Semester Narrative Essay**

Jacob Hagen

ISAT 252

Spring 2015

This semester in ISAT 252 I had my first opportunity to work with computer programming and to see what happens behind the scenes with regards to how computers work. At the beginning of the semester, I had high expectations in regards to the amount of work I would put into this class due to the fact that I had/have a high level of interest in the IKM concentration. I learned on the first day of class that we would be doing a lot of work on our own, and I looked forward to being able to explore the world of programming at my own pace and to not have a set path that I would have to follow. After the first class I had high hopes that I would come away with knowledge on different programming languages, with Python and JavaScript being the two that I was most interested in.

My learning goals for ISAT 252 were being able to successfully gain as many badges as I could, and to be able to at least do “Hello World” for all languages, and to move past those and be able to do the “Hello Variables” for as many languages as I could. More importantly, I planned on learning how to better use the command line, as it appears to be one of the best tools to know how to use when doing any programming with computers. Another goal I had was to spend time learning the inner workings of computers and understanding how they actually work.

Over the course of the semester, my goals stayed relatively the same however as I spent time with the different programming languages I was able to decide which ones interested me more. As I learned which programming languages I enjoyed more than others, my goals evolved in order for me to have more time spending on those languages that I did like more such as Python and PHP. On the other hand, I found myself not spending as much time with JavaScript as I had originally planned as I had a harder time understanding how to write its “Hello World” and “Hello Variables”.

I feel that I was successful in several areas, including being able to write the “Hello World” programs for languages such as PHP, Python, Ruby and Go. I was unsuccessful in finishing “Hello World” for JavaScript and R however. The only proof that I have regarding my programs working are the fact that they passed the initial test used by the [exercism.umatter2.us](http://exercism.umatter2.us) website. I never got feedback on my programs however and I am unsure as to whether or not they were indeed written in the way they needed to be for them to be useful in actual programming. I was able to complete more than just the “Hello World” programs, I was able to complete the “Hello Variables” for PHP, Python and Ruby. I feel that I was also successful in better learning how to utilize the command line. I was able to learn and retain information such as switching between files by typing the letters “cd” and then the name of the file/location that I wished to switch into. I also learned that you could move into previous files by typing cd .. and that by using the \ command followed by more dots that you could go even farther back.

Furthermore, I learned how to make directories through the command line by typing mkdir. By learning the above command line prompts along with several others, I was successful in beginning to understand how useful the command line can be. Finally, I feel that I was successful in learning the importance of the path of the computer, and how the path is responsible for the flow of information through different programs. The path specifies the unique location of a file in the system and is useful in determining relationships of files and directories in operating systems.

One of the areas I failed at in ISAT 152 was truly learning the different languages in a way in which I would be able to use them for other programs. Computer programming did not come very easy for me and I spent more time researching and learning what did and didn't work for the tests than I initially thought I would. I was also not successful in completing "Hello World" for each programming language as I initially hoped that I would. As a result of not completing all "Hello World" and "hello Variable" programs, I was unable to continue on to the harder programs that became available towards the end of the semester. In truth, the only "Hello World" program that I was unsuccessful at finishing was JavaScript. I am still unsure as to why but I was unable to download and use R on my computer, and even had outside help but one of the files on my computer was corrupted and it would not allow me to finish downloading R. Another area I wish I had been more successful in was learning more about the inner workings of computers and how they actually work. Although not an excuse, I feel that I would have spent a considerable more amount of time in this class this semester had it not been for physics. Over the course of the semester, I spent a majority of my time working on and studying for physics due to it truly being one of the hardest classes that I have ever had to take. Had it not been for physics, I feel as if I would have had a lot more time available in which I could have learned more about programming and how computers actually work.

I have learned from my failures that I need to learn how to better utilize my time. I have found that although I get my assignments done I tend to wait until I have to do them and therefore my assignments do not have the quality that they could. I also learned that when I have questions I need to spend more time going to professors and others who may be able to answer my questions in a better way. If I had spent more time having my questions regarding physics answered, I feel that I might not have been as stuck as I was at times and I then would have had more time in other classes with which to spend my time on.

Thanks in large part to JMU, I can honestly say I feel more educated. Before coming to JMU I attended a community college where unfortunately the professors seemed to view teaching as simply a job and not something that they enjoyed spending their time on. My first semester at JMU I could see that the professors here, and especially the ones in ISAT truly enjoy teaching about their respective subjects and as a result of that, I too have taken a much different approach with regards to my education. Instead of simply hoping to get my assignment done I now spend more time actually learning the material. I also enjoy the fact that much of what I learn has a purpose later on and that many of the classes build off of the material learned in previous/other classes. Because of my new outlook on my education, I feel that I have become more enlightened as I begin to see the whole picture as I move further along in my studies.

As I stated in the above paragraph, I now view my education in a different light and because of that, I feel that I am better to understand myself. The way in which I have been able to better understand myself is that I have finally started seeing where I might wish to end up in life with regards to the types of jobs I hope to have. Although I wish I had spent more time working on programming in this class, I did gain more appreciation for computers and the many different tasks that they are capable of doing. Computers in some way or another impact almost every aspect of our lives today. They are used in cars, health related subjects, and are the technology responsible for all of our phones and tablets. More specifically, without the computer programs that exist, computers would essentially be useless. Now that I realize just how much programming has to do with computers, I am very interested in pursuing more classes that will allow me to gain a better understanding of the many different programming languages.

I feel that the way in which this course was set up is one in which more classes should be modeled after. Many students never learn much of anything at all because they are more worried about the grade they will receive than they are about whether or not they are actually learning anything. Although the degree at the end of the road is what will lead to jobs, the learning is the most important factor when determining the types of jobs we will be receiving later in life. By not having to worry about grades or tests, I feel we as students can spend more time learning about the things that actually interest us, rather than simply cramming for a test just to forget all of the information after the test is completed. Although it is true that with deadlines, more might be accomplished as a whole, I truly feel that with the freedom to learn about the things we are more interested in that in the end we learn much more than when we are forced into a linear learning path.

If I was to take the class again I would definitely recommend that the class setup is the same. As stated above, I really enjoyed having the freedom to not only not have to worry about the grade, but also that I was able to focus more time on the programming languages that I had more interest in. One thing I would have liked a little more is to have had more lectures every now and then. Although I enjoyed the free time to do the research on my own, I feel that it might have been beneficial to have had at least one lecture pertaining to each programming language that would have explained the basics of the respective languages. There were times with several of the languages where I was really unsure of where I should start. Furthermore, being somewhat of a beginner with computer programming even when I did find websites that contained valuable information, I was unsure as to what was being said or how to use the information that was being presented to me.

In the end, I feel that I do not deserve an A as I honestly could have spent more than I did on learning how to program. That is not to say that I did not spend a significant amount of time on the class, I did, however as stated in a paragraph above physics at times really kept me from being motivated from learning other material. I feel that I deserve a B+ as I did complete many of the "Hello World" and "Hello Variables" programs and I did gain a better understanding of the command line and how files are located and stored. Overall I really enjoyed the class and how it was setup, and I gained a better appreciate for computers and how they work. I look

forward to taking you as a professor in the future, and hopefully to taking classes that are set up in the same way that ISAT 252 was.

### **Expectations**

My expectations coming into the class were nothing what the class was actually like. During the first couple weeks of the class we were introduced to GitHub and php as well as given an introduction on syntax and basic programming language. This was something I expected, but receiving almost complete responsibility to do the programs and complete the subsequent exercises was not something I expected. That concept seems to be both the best part about this class as well as part of the reason that I did not get as much done as expected.

I expected “writing a program” to be something completely different than it actually was. The concept was completely new to me coming into the class, and I had foreseen writing a bunch of symbols in the correct order and then an application opening on its own. This was not the case. I did not know that writing a program was actually a language, and that there were actually multiple forms of these languages. Putting together a string of modified sentences that relates to math more so than English seems to be my more practical view of programming now. The language is not just a bunch of symbols and letters, but is actually a series of inputs and outputs, which makes much more sense looking back.

### **Goals**

My goals for this course evolved over time. As I first set out to complete writing “Hello, World!” in php, a number of errors occurred immediately. My computer had a number of software setbacks that prevented me from getting the jump on this course as I had planned. My goals turned into, “Write Hello, World! in php.”, into “Figure out why my computer won’t unzip files correctly.” almost instantaneously. It took a while to get the program downloaded, but once I asked for help, I was able to start.

The goals I set for this course was to complete each exercise in turn. Those goals seemed to be my focus point weekly for this course. It took longer than expected to get Hello, World to run for every language that I tried, but once I discovered how to adjust the Environment Variables correctly it went smoother. MY computer still to this day will not open all the zipped files it is presented with. For instance, I cannot open a zipped file with pictures inside it- I tried yesterday for Biotech 351. This has plagued me over the semester, and has modified my goals for this semester considerably. I found out, while trying to get this to work, that this problem dates back to 2012 when my computer was infected with a “Search Protect virus”. In order to delete the malicious program, I had to delete a folder in my Windows 64 bit system that had to do with C++. This caused the problem, and since we downloaded a newer version a few other different problems came with it.

### **In what ways was I successful?**

In the practical sense of this semester, I succeeded. I now know much syntax for 4 different languages that I previously did not know even existed. The languages that I completed Hello, World! In were php, Python, Java, and C. I know how to open documents from the command line, how to get an output from a command, how to look up read/write/execute privileges for a user, how to change directories and execute commands from inside a folder, and what benefits this can bring. I did not accomplish as much as expected (originally I wanted to complete all languages and be more proficient than I am now) but I am far better than I was at the start of the semester.

### **In what areas did you achieve your goals?**

Each goal I set for myself weekly I succeeded in doing. I completed every task that I set out to each week eventually- and had to repeat a few more than once. A goal that I set out, although not in writing, was to be more proficient in learning the overall language of programming. I succeeded in that. Each language had its own syntax, and I learned more than just how to write "Hello, World!", in each of them, In fact this was a must to figure out how to get an output from Sublime Text or Windows Shell.

In addition to learning Windows commands, through my employment at the Help Desk at JMU I was actually able to apply this knowledge and help customers in ways I was not able to do before. For instance, a customer last week was unable to open any Word documents through her regular Finder program. To troubleshoot the problem, I had her try in her terminal, which worked. This narrowed down the problem to her OS and we were able to fix it using her disk preferences (which just needed to be repaired). This would have taken me much longer if not for this class- for that reason I call it a success.

#### **How did you fail to achieve goals?**

Due to sickness and interviews at home for a job after college I was not able to put much attention to this class some weeks. Although it is not great to write and probably will work against me, I did put other responsibilities before this class and others this semester. I missed a lot of classes (both this and others) to secure a job after my graduation this May. This work paid off, but my grades did suffer.

I did not complete all exercises. This was one of my main goals at the start of the semester. I was able to execute a Hello, World program from 4 of the languages, but the work I put forth was scattered, and sometimes I did not fully understand how I got the program to work. I also tried to investigate all the errors I received when I tried to finish a program and failed. I was not able to do this all the time, but I did gain a lot of practical knowledge from it.

#### **What did you learn from your failures?**

I learned that although a program seems simple enough, it may be much harder and tedious than expected. On many occasions I sat down to work at Sublime Text, and was given a slew of errors that I did not know the cause of. Troubleshooting these issues took a while, and ended a lot of nights with nothing to show. I learned from this that programming is an extremely precise profession. If one term or command is written incorrectly, it will not work. This led to learning about Google. Google had many answers for me that I would not have figured out on my own, possibly ever. Leaning on the expertise of others who had been given the answers to similar or the same questions as I had lead me to derive clues to how to fix errored programs or fix simple mistakes.

#### **Do you feel enlightened?**

This class left me with the impression there is still a lot to learn about this field of study. Due to mishaps all semester that did not permit me to put forth as much time as expected, I can perceive that this is perhaps my fault. However, I do feel an understanding for the subject that I never had before. For this reason I would say yes I feel enlightened about the course and the material we covered, but no I do not feel enlightened about the field of programming. I say this because I did learn the material we were instructed to complete, but I do not feel as though I could apply it to anything else. Once again I would say that this outcome is my own doing. If someone were to come to me and say write a program that would generate a definition of a word when I inputted it into the command prompt under the correct settings, I would not know where to begin. This was an example of a simple program I could create that I found on some relevant websites. I did not explore the concept, but it would be entirely new to me if I tried it in a programming language. It would take a long time before I understood where to begin, and I feel if I started I would be starting from scratch.

**How have activities this semester contributed or detracted you from knowing yourself better?**

My activities this semester have been focused entirely on finding a job after college that would pay for my gigantic out of state debt that I owe the government upon graduation. This has detracted from my ability to learn in every subject. As to it affecting me knowing myself- if I had given this uniquely set up class the time it really deserved, I would perhaps have learned how I work independently much better. Outside of this major setback, the time I spent on this course helped me find out how I responded to error after error in a setting I wasn't familiar with. The attribute of diligence would be the one thing I learned about myself this semester from this class specifically. I learned that if I set down long enough and put in enough effort, I can complete the goals I set for myself. This also led me to the conclusion that I work much better with more structure and guidance. I know a main point in this course was to discover the solution yourself, which worked well when I had a lot of time to set aside to learn- but this unfortunately was not the case all the time this semester.

**How did this style of course work for you?**

This course style would have worked extremely well for me any other semester than this one. I work well alone and in groups. This class I worked almost entirely alone, as I did not know many of my classmates and did not ask for much help from them.

**Would you recommend this course be taught the same way?**

If I were to take this course again, I would recommend there be some assigned group work. I know that my classmates as well as you were always there to ask, but having an assigned group where group contribution mattered would have helped structure my effort in the class. I actually think I would have learned less this way, but it would have given me a defined goal laid out by more than just myself that would have allowed me to progress faster yet not as thoroughly.

**What grade would you like for me to report?**

I would like you to report an A for me in this course. I did put in significant effort in this course and can with certainty say it was more effort than I spent on other classes. If I were to judge myself cumulatively this semester, I would say that I tried harder in this class than any other- although it may not seem like much. In addition to that, my grades this final semester at JMU were worse than any other semester I have had. This is due directly to being at home during the weeks for interviews as well as being extremely sick at the start of the semester with a throat fungus as well as another more embarrassing invasion to my body. Feel free to ask me about that in person, but it is personal yet deserves a laugh after it is over. For this reason an A on my transcript would help me considerably, and since you give students the opportunity to choose their grade, such a high letter grade would tilt my GPA this semester forward instead of backward.

I would also like to say thank you for teaching such a unique course- every course at JMU has been the same, and it has been a surprisingly educational experience. You were without question there for every student that asked for help, and that something every university should look for in a professor.

Shanna Bishop

Professor Benton

ISAT 252

5/5/15

### End of Class Reflection

Coming into this class, I expected to learn the basics of programming. My goal was to gain sufficient knowledge in the foundations of programming and potentially continue on in ISAT in the Information Knowledge Management sector. My expectation was that even though I had zero experience in programming, I would learn to really enjoy it and want to continue with it in my future. My goal for the class was to work diligently in class and spend a few hours per week outside of class. My intention was to work along with others in the programming activities and to help one another learn new skills. I wanted to learn what programming is all about and begin to learn some programming languages.

However, my goals for class changed over the semester. At first, I started out pretty strong. I had motivation and was ready to learn many new things about programming. I had very strong hopes that I would enjoy this class. I would come to class everyday and work on programming languages with my classmates. This, however, turned out to be harder than I expected. I had no clue where to begin with the languages and I expected too much of myself. I wanted to jump right in and be able to do the activities easily, even though I did not know anything about how programming or computers worked at all. I wanted to be able to do the activities without researching a lot on the internet. Some people were super fast with doing the programming activities and that intimidated me. There were people who were able to understand programming faster and who it clicked with better. I wanted to ask people a lot of questions on how they were doing the activities, but then I just stopped because I started asking too many. At one point I also deleted my entire path which discouraged me. I began to feel overwhelmed because I realized that this was not as easy as I thought it would be and it did not really mesh well. I started to think that maybe Information Knowledge Management is not for me. I realized I do not like computers that much and that I do not like staring at them for a long time.

I was successful in this class in several ways. For one, I figured out that Information Knowledge Management is not for me, which was one step closer in figuring out what I want to do after college and what I want to do in the world. I can now pursue other areas in ISAT. I was successful in completing the hello world and hello variables exercises in PHP, R, and Python. I learned a few skills from doing these. I learned how to download these programs and install them onto my computer. I did these programs by looking up tutorials for them on the internet. I also went through several codecademy activities in PHP, R, and Python. When I was doing the hello world and hello variables activities and received an error, I would google the error to figure out what I had done

wrong. I would also ask classmates and try to figure out it out with them what I or we had done wrong. By doing this I gained some skills in communicating and problem-solving with others. We were able to put our heads together in cooperation in order to figure out a problem. These activity also taught me investigation skills. I learned how to investigate the issues I was having with my programs through websites such as stackoverflow. These websites helped me with issues that I was having so that I could continue on with my program.

Along with my successes, I also had failures in this class and in my goals. One of my biggest failures was getting discouraged when I was frustrated. When I could not figure out how to do a program I would start to shut down and give up. I was unsure of how to proceed with my task so I gave up. I also failed in that I began to compare myself to others. There were other people in the class who were experienced in programming and also people who were easily able to pick it up and figure out the activities. When these people started to fly through the activities I freaked out and felt left behind. I felt like I was incapable of doing the activities so I began to lose hope and stop trying. I lost motivation which prevented me from learning. I realized that I need to stop comparing myself to others and that it okay to go at my own pace, even if it is slow. It is better to go at a slow pace than do nothing at all. I learned that I should keep trying even if it is tough because in the end I will be smarter and more knowledgeable. It is okay to not know how to do something right away and to struggle with it in the beginning. Some things take time and programming is just one of those things for me. I learned that I should look at my struggles as a challenge and not as something that will bring me down. I also failed in that I did not finish the other programming activities. Because I did not finish these, I missed out on potential skills and knowledge that I could have learned. These skills could have been valuable and taught me many things. I missed out on things that I could have learned from the class all because I got frustrated. From this I learned that if I do not try, I will not gain the potential skills from my classes. I need to apply myself more so that I can get the full benefit of the class. This class taught me a lot about myself and my habits. I think that from learning these things that I can grow exponentially.

I have several ideas on how to fix these issues that I had. In future classes I will not compare myself to other students. I will not freak out if I am struggling in a subject. It may be difficult to understand at first, but if I am trying my hardest that is all that counts. I will focus on what I am doing and if I feel like I am trying my best. Also, if other people are struggling like I am, I will not take that as an opportunity to slack off either. I will continue to try and figure out how to succeed. I also learned that if one method of learning is not working for me, that maybe I should try looking for another. I also plan to set more goals for myself in the future. It often gets difficult for me towards the end of the semester to remain focused and studious. I go into the semester excited to learn new things and succeed, however, as it goes on I almost always get discouraged. I will set goals for myself and when I meet those goals I will reward myself with things I like to do. Also, I am going to try to keep a more positive outlook on school and learning. I will view it as an opportunity for me to grow and not something that will bring me down. School helps me better my future so I should keep this in mind when I am doing work or

studying. Another idea is to look up positive quotes about doing work when for me to read when I begin to feel myself getting frustrated. These several ideas and plans will definitely help me reach goals and do well in school in the future.

I do feel more enlightened after this class. I feel like I have learned what programming is about and a few things about the basics of it and computers. I also have gained respect for programmers because it is something that does not come easily to me. Mostly, however, I am more enlightened about myself, my habits, how I manage time, and my learning style. I definitely know now that I do not want to do much programming in my future. I also have found out that I need a little bit more structure to keep me in line when I am trying to reach a goal. I also need to keep my mind on the end result and what I will have gained by putting in the effort so that I may stay motivated to complete my task. I also learned that in the beginning of reaching goals, I like to think that they will be easier to meet than they actually are. I should keep in mind the possible difficulties so that when I am faced with them I am more prepared. I learned that once I figure out that something may not be for me, I tend to give up on it altogether. I learned that I should keep on trying and persevere. I also learned that I get very stressed out during the last few weeks of school. I may not start studying for all of my classes soon enough for finals so things start to get out of control. I begin to lose focus on subjects, and focus way more attention on others. I learned that I need to slow down and maybe start planning more ahead of time. I should try to manage my time more efficiently and set priorities and goals. I should stick to these so that I accomplish them. I need to slow down and not freak out so that I can still learn in all of my classes and stay focused in them. I need to keep going strong and stay positive throughout the entire semester so that I can succeed. I have also learned that I need to stay more organized. Organization is key to success and I am not always organized. By being organized I can get more things done and focus on the goal. This would have helped me a lot during the semester. All of these things that I have learned over the semester have been very eye-opening and enlightening.

This style of class was not the best for me. I enjoy having freedom in my classes to do work on my own time and work on what I want, however, I think that there is a point when there is too much freedom for me. I like some degree of freedom so that I can manage my time how I like, to an extent, and so that I can go at my own pace if I need to spend extra time on a particular topic. This is definitely beneficial to my learning. It would have been better if there were a few more checks or incentives for me to finish my hello world and hello variables activites. This would increase my motivation to continue on and it would boost my confidence. If I were to take the class again I would recommend about three check-ins with students throughout the semester to see what they have accomplished or to help set them back on track if they have gotten stuck. However, even though I would having changed the layout just slightly, overall, I did enjoy the class as I was still able to learn many things.

I would like you to report an A for me to the registrar. I feel that I have had a taste of the programming world through this class and also I have learned numerous things about myself in the process that will help me succeed in my future endeavors. This

class has definitely been eye-opening, thought-provoking, and motivating. Thank you for having this class and I hope you have a fun and relaxing summer!

Sean Maher  
Morgan Benton  
ISAT 252  
6 May 2015

### Narrative Essay

Coming into this class I expected a coding class similar to GISAT 251 with Dr. Henriksen. The structure was a type of instructional lecture where she would demonstrate simple example problems and write code, we would have to replicate and expand on them in labs and show how we could use the code to create graphs, or conduct t-tests. I expected to have trouble with the coding though because I struggled with R in 251 and I am not the best with computers. My only experience with coding was with R and Rstudio in 251 which we mainly used as a calculator and graphing tool, so I was pretty unaware of what real coding was and what we would be doing in the class.

I wanted to learn and become proficient in a new coding language, preferably javascript or python. Some of my friends in high school had learned to code using python (I think it was python but I'm not 100% sure) and they could design apps, knew all types of things about various plugins or extensions on websites and could do things I didn't know the user could do with a computer. Granted it was a yearlong class that met daily and was a small group, but I wanted to learn more about coding and what coding was capable of doing. I didn't know we were going to be learning so many different languages or that so many existed.

As the semester went on I realized I was pretty clueless about coding and needed a lot of help. When I found out about the badges and different languages we would be learning I was a little overwhelmed and tried to do a few with the help of my classmates and some were easy and others just stumped us and we moved on. I had trouble with each of the hello-world badges which was pretty discouraging and one of my goals ended up being to not just copy and paste some else's answer because I wanted to see why/how the code worked and just copying would be pointless since we choose our own grade.

I felt successful when I completed the hello-world and hello-variables for Go and R which took me a lot longer than I thought they would. I was able to reason through the problem and figure out what I was supposed to write with the help of a few people and some googling even though it took a while.

I feel like I didn't learn more than the intro of a few languages when I really just wanted to learn how to effectively use one. Each language can be used effectively for different things but I feel like learning one first would help me. I didn't know which languages were used for what and had a lot of trouble changing languages so frequently, which just made it harder to complete exercises and earn badges.

I feel like I should focus on just one language rather than learning how to use a few different ones. In the long run knowing how to use different coding languages will definitely be more useful than just one but since I'm just beginning and I'm pretty bad at using computers I feel like just learning one would be a better start.

I definitely feel more educated about computers. I had no idea that the command line even existed before this class and now I know, to a certain extent, how to use it effectively to do what I want. I feel a lot less enlightened than before this class because I realized how utterly clueless I am about code compared to others and what coding can do. I definitely feel intimidated by how advanced some people in the class were and how much more they understood than me going into the class.

My activities this semester have let me know myself better, but not really let me see what I want to do in the future. I knew that going in I was probably going to have trouble with coding and I don't really want to work with computers for a living. I recognize that I should learn and understand how to use computers and coding is an amazing tool that can teach me how to think and solve problems but at the same I don't really like working with computers and as a result I'm not too good with them. In the distant future I could see myself working with code, but I would need a long time to learn. After this semester I have learned how frustrated I can get with code and how easily I can just give up and move on, so I would need to learn how to properly code first.

I don't think this style of course really worked for me. I actually like when there are deadlines for work so I can know what pace I should be moving at and the lack of deadlines, or a point system and the knowledge that in the end it wouldn't affect my grade let me give up on assignments a lot quicker than I normally would and also made me lazier when doing the assignments that should have been done quickly because there was no pressure.

I would recommend more instruction/examples like when we did the PHP badges at the start. It would create a place to start from and it really helped me with the hello-variables. Assigning teams or having people choose teams to work with for the semester would also have been really nice. I only worked with about 5 people this past semester and once a few of them decided they didn't really care and just wanted to do other work or not come to class or stop helping because they were so far ahead and wanted to do other badges I kind of just stalled and had to try and grind through the coding myself which ended up being arduous and unsuccessful. I would also recommend an actual TA, I don't really know what happened to the guy who was going to help us with our work but an additional person who we can talk to, can help us, we can work with and ask questions would be especially useful for a coding class (maybe just for me because I was so inexperienced at coding). I really liked the music and a lot of it is, or similar to, the music I study too which I really didn't expect coming into the class, and also sort of motivated me to come sometimes because it was a good atmosphere to work in. Play some Tycho, Little people, blue sky black death and more Emancipator and Blockhead.

A, I had to take this course as a pre-requisite and am pretty bad with computers. I was doing well, learning the languages and earning badges until everyone I was working with lost interest and started doing their own thing. I didn't want to ask other people to see their code because just copying it wasn't helping me and was not learning. Just copying was pointless in a class with no set grading of the code, so I decided to try on my own. My work for the class essentially became me googling everything and that didn't get me far at all, but I still tried to do what I could. I learned a lot about coding but barely touched the surface and would like to take more classes to get better and become a decent programmer, but with more structure.

Kyle Fakhoury  
Morgan Benton  
ISAT 252

### Final Paper

I did not know at all what to expect from this class. I figured it was going to be somewhat of an introductory level programming class. I did not know it was going to be in the particular format or structure, if you will, that it was. I was excited on the first day of class when Dr. Benton explained what we would be doing in class, and how the grading system and class in general will work. I have certainly never taken a class quite like this one.

My goals at the beginning of the semester were to learn as much about programming as I could and to meet people and compare my ideas with theirs. I was successful at achieving both of these goals by the end of the semester. Before ISAT 252, I knew essentially nothing about computer programming, other than the fact that it uses algorithms and a series of instructions to accomplish a goal. By the end of the semester, I learned how to properly navigate the command prompt, the basics of how programming works, as well as the specific syntax of several programming languages. Furthermore, I did meet new people in my class and ended up comparing code with them throughout the semester.

Evidence of this can be found in the programs I wrote and submitted for badges. Although I did not complete every badge, I completed most of them and it was enough to challenge me in a discipline in which I had no experience. I am happy that I was able to keep up with them throughout the semester. I do enjoy the concept of the badge. To me, each one was a puzzle to be solved using logic, trial and error, and the internet. Something about it satisfied my inner scientist. I enjoy solving problems in which there is no obvious formula or method for solving them. The badges were this way because I had to teach myself the language and then apply whichever part of that knowledge was relevant in order to figure out the right code to solve the badge.

Although I am satisfied with my accomplishments in ISAT 252, there were definitely things I could have done differently to accomplish more and perhaps learn more about programming. First of all, I could have showed up to every class. I came to more than 80 percent of them, however, some of the occasions when I skipped were simply because of laziness or because I did not want to leave the comfort of my warm bed. This is an issue I have been struggling with for the past couple years. It is probably a result of several things. For one thing, I habitually stay up too late for when I usually intend to wake up. However, I think my desire to sleep in stems from a deeper problem

than that, alone. Even when I go to sleep early, I still don't like waking up.

My most recent theory on why this is because of some kind of disconnect between my sub-conscious and conscious minds. When I first wake up, it usually takes me a solid minute or so for reality to set in again. During that minute, I have to remember who I am and what I am doing in life. My experiences through my sub-conscious during my sleep are very different than those through my conscious mind. They feel like two different people's lives, altogether. The process of re-remembering my conscious life in the morning is, in itself, exhausting. This summer, I plan on learning how to lucid dream, which will hopefully bridge the gap between the two states of consciousness.

ISAT 252 has succeeded in fulfilling JMU's Mission Statement to enlighten and educate students. I feel more enlightened about different styles of classes after taking this course. JMU needs more professors who challenge the standard format of education and experiment with the method in which a class is taught. I was also educated by this course simply from learning the programming languages that were assigned to us.

This semester has certainly been a growing period for me. I have realized several things that I think are going to be good for me to know. The first is that I can do whatever I want in life. This might not seem as if it should be a something that needs to be realized at all, however, before fairly recently, I went through life in a very systematic fashion. I think it stemmed from my upbringing and just the nature of having parents. When you are a child, you have very little control over what you can do. You go to school because you are told to by your parents and because society deems it as normal and what you are expected to do. The same goes for when you go to bed, when you eat, and even what is defined as fun, "extra-curricular" activities. Most children are forced into taking piano lessons or joining little league because that is what the parents feel is healthy for the kid. However, I realize that this is because children are, for the most part, incapable of making decisions that benefit them in the long run.

As I see it, a large part of maturity is realizing that you can do and be whatever and whoever you want to. The only thing stopping you is the limits you put on yourself. In my case, many of these limits were vestiges of childhood obedience. During my whole life, I feel like there has been an entire master plan laid before me that was set up even before I was born: go to primary school, go to secondary school, go to college, get a well paying job, marry someone and settle down somewhere, retire and die knowing you lived a full life. I realized this semester that this plan is absolute bullshit. Why would I waste my one opportunity to be alive here on Earth playing out some pre-determined sequence of events? I think I used to feel like I owed some sort of responsibility to my parents or to society to be a certain way, but I realize now

that that idea sucks away the very essence of being human. I intend to live the rest of my life with no preconceptions about what a normal life should be.

The second realization I had was that life is now. I often used to fantasize about how great my life could be in the future and how one day, all the aspects of my life that I want to change will all-of-a-sudden be different. My realization was that every moment is my life and unless I make efforts to change it right now, in the moment, they will never change and the fantasy life will stay a fantasy. It is incredibly easy to live day by day and just focus on small, immediate tasks. I realized that every moment is an opportunity for change; be it, eating healthier, exercising more, or wasting less time browsing the internet.

As I mentioned before, I liked this style of class. I like how the student is forced to learn the material in their own way. This style of class also encourages the student to talk and compare ideas with their classmates. I appreciate the philosophy behind the class and I agree that our entire education system needs to be thought out and re-evaluated.

However, for me, I probably could have learned more if this had been a traditional class structure. This is because I did not know anything about programming. Having taken the class now, I definitely learned about programming, but in a very narrow way and for a specific task. I still don't know most of the fundamentals behind programming languages, I would have liked someone, at some point, to have said, "this is why a programming language works and these are the capabilities of this particular language." To earn the badges, I would focus on that question, specifically, and figure out what I needed to write in order to solve the problem. I did not really understand WHY it worked, most of the time, because I wasn't required to explain so.

To summarize, I like the style of class; I just did not prefer it for programming because I knew nothing about the subject and I like to be taught fundamental concepts of a discipline first. I would like an A in this class. I am proud of the work I did and I accomplished all my goals. I learned the basics of programming and the command line. I also spent a decent amount of time outside of class working on these assignments and I was mostly consistent about showing up to class.

Firstly, I would like to thank Professor Morgan Benton for the awesome experience in programming this semester. I have gained critical thinking skills, the ability to code, and the ability to solve complex problems. This class showed me that the ability to learn freely in comparison to a rigid syllabus works. I will probably never have another class quite like it, and I am pleased to have this experience.

Before coming into this class, I had a few expectations. First, I knew of Professor Benton and his teaching styles, so I had an idea of what to expect. I expected the class to be very individual and that students would be free to learn however they want. I also expected to learn how to program, and become more knowledgeable about the world of coding. I wanted to enjoy my time in class while also learning how to code.

One learning goal I set for myself was to complete hello-world tests in at least 3 languages. Also, I planned to learn how to better maneuver on my laptop. Another learning goal that I set was to finish all the tests in a language.

Over time, my goals evolved. Around spring break, halfway through the semester, I started thinking about an everyday problem, and mock designed my screens and pages for the application. Instead of focusing on passing tests, I was more concerned with using my acquired knowledge to develop something of use. I did not plan to actually develop the application through coding, but it was exciting for me to come up with something from scratch and integrate the idea into real life.

I feel that I was successful in a few of my learning goals. I completed the hello-world tests in three different languages. I also have pages of scrap paper with application page designs showing my attempt to create a physical artifact. I attempted every language test for hello-world, but wasn't successful in passing the tests. However, I feel that trying to expand my knowledge base and in attempting the other tests, I learned about coding and what it takes to work towards a goal. I learned how to better navigate my computer, as well as using the Internet to help with specific questions regarding coding. I am aware of websites with full handbooks for each specific language, which I used a lot throughout the semester.

With regards to the testing component of the class, I feel that I did not do as well as I would have wanted. I wish I was more able to complete those tests, and go farther than hello-world in the few languages I did grasp. However, like I said above, I feel there is something to learn from my failures and spending time with more languages.

I feel that I gained a greater awareness regarding coding and how to critically think through problems. I realized that although my brain does not necessarily think in a way that understands fully how to code, I was able to look at each problem and decide my best plan of action. This includes using handbooks online, referring to past tests, etc. I am planning on making IKM one of my three sectors, so I will have more time to work on these failures. I still use code academy to pass time in between classes, and this summer gives me ample time to work at becoming a better programmer.

I agree with JMU's Mission Statement in that I do feel more educated. I attempted to learn how to code, a skillset I had never previously thought about before. I realized that all software was created through programming, but I never seriously understood the massive impact programming has. I am now an avid learner in a subject matter that was previously foreign to me. In this sense, I feel more enlightened regarding programming.

This class served as the perfect introduction to programming for me. I plan to keep coding and using my programming skills throughout my undergraduate degree, and even in a career. I am very interested in the world of programming, and I want to continue taking classes in this sector of ISAT. Also, it would be neat to see my application idea turn from paper into an actual program.

I really enjoyed this style of course. Like I said before, it was unlike any previous class that I had taken, but it worked. It relied on actual student will to learn, rather than a normal lecture class where the professor talks to and at his/her students. As a student, I had to learn how to learn about programming, which is a better quality than just being taught how to pass a test. Allowing students the freedom to learn at their own pace and on their own time is a great style for this course.

I would like the first two or three weeks of class to be more structured in lecture and practice as a group. It was hard as someone who had never programmed to jump right in and start solving the tests. I know that there were a few classes early on that talked about variables, operators, and functions but I do not think that I was given enough base knowledge. This made it difficult to actually work on my programming skills, and I spent a good amount of time on Codecademy trying to better understand fairly simple concepts in coding.

I would like for you to report an A to the registrar. I feel that I worked hard in class as well as outside of it in order to become a better programmer. I also delineated from the path and started working on concept images for an application. All in all, I believe that I worked hard and although I do not have a bunch of completed tests to show my progress, there were countless hours spent trying all the tests and in completing the ones that I did.

Phillip Volz  
Isat 252

When I enrolled in Isat 252 last fall I had few preconceptions other than my little prior knowledge of programming and having you, Morgan Benton would be a joy. As the first day of spring semester approached, I really began to think about my classes, especially Isat 252 because I had no idea what to expect. I knew we would be dealing with computers, which was both pleasing and displeasing because I am very comfortable with computers from using excel, R studio and jail breaking iPods. However I was concerned that having a Mac would leave me at a disadvantage because the engineering classes I took freshman year only used PC's. On day one I was relieved to find out that not only were Macs acceptable but most people in the class had macs. On that day I also realized that how well I do in this class is completely up to me, so I had to set my own goals. My main goal was not to master the languages presented to us in the class, but to get familiar and understand each language. This goal was maintained throughout the semester even though I was distracted at times, such as getting too focused on one area I became familiar with. All in all I feel successful because I was able to teach myself fundamental ideas in several languages such as PHP, R, python, and swift. I completed hello world for those four languages, hello variables for the first three, and continue to pursue operate on PHP and R. PHP and R are my strong areas, but I also worked on code academy for several other languages, and was able to share my knowledge to fellow classmates if need be. Even with this success, I did not achieve my overall goal for the semester; get familiar and understand each language. This comes as a surprise because I really feel enlightened after completing this course. Although I did not achieve my goal, I understand why I didn't from having the weekly evaluations sent to me. My two main issues are time management and distractions. Every weekly survey I found myself not achieving my prior weeks goal of working for seven hours a week on this class, and the next survey question would ask what prevented me from achieving that goal and I would frequently write time management. I never thought I had an issue with time management; I always try to spread my classes out, get my work done ahead of time, and be punctual. Looking back on the semester I feel my biggest issue wasn't time management, but being distracted. When I say being distracted I don't mean watching too much TV, or surfing the web, I mean getting too attached to a programming language. For example, when I finished hello variables for PHP I instantly went on to operate and I worked on it for a week until I realized I wasn't exactly trying to accomplish my goal. I did learn from this mistake however because I was tempted to go to operate after completing hello variables with R, but I resisted. Another distraction was working with my friends. When we all worked on the same language we were very efficient and helpful for one another, but when an assignment was finished we would start different languages and therefore had more difficulty focusing on our individual language. The solution to my problems for future classes or life really depends on the situation, for time management I just have to set smaller goals such as working for an hour a day. For the case of distractions I need something to keep me on task, like a post-it board of

what needs to be done, what is being worked on, and what is finished. I believe with these solutions I could have achieved my end goal for this course, and with these solutions in mind future projects will get done in better time.

JMU's mission statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." When I read this mission statement I think to myself that this is exactly what this class and the Isat major strives for. When I first started to reflect on this class I always had the image of my neighbors and I working on an assignment sharing our knowledge to one another to help achieve our individual goal. That is exactly what the mission statement is trying to do; we are enlightened citizens through different experiences and classes sharing our knowledge to be productive in our meaningful lives. This doesn't only happen in 252, I live in a house with three other Isat majors and we are constantly asking each other questions, and sharing knowledge to achieve our individual goal. Personally, I feel more educated and enlightened. When my neighbors asked for help, I usually came through with a solution whether it's making sure they are in the right directory, spelled the command correctly, or if their code made sense. I also learned tons about my computer not just in the terminal or coding languages. In the first week I had an issue on my computer and I remember you came over and fixed the issue without ever touching the mouse and my neighbor and I were blown away. Little did I know that from constantly coding and typing I started to pick up these shortcuts, and now I find myself constantly using nifty shortcuts. Having finished Isat 252 I feel like I am starting to fit the mold of the JMU mission statement, and everyone in the class should feel that way too.

This class was truly a joy to come to; I've always been interested in programming and being able to take a class where I work on my own time and teach myself was a dream come true. Ever since I was a kid I would get lost in doing puzzles, or lose track of time while taking something apart and putting it back together. This was the case during Isat 252, I would get so into getting the code done that I wouldn't look at the clock and would leave when everyone else did, and then pull the code back up in my next class. Before I took this class I knew I wanted to sector in energy and environment, but the last one was always a bit of a grey area for me until I took this class. Having completed 252 and enjoying every minute of class I took IKM as my third sector. I am very excited to continue programming in the Isat department and I think there should be more required programming classes because it's used in all technology and everyone in the Isat program should have a better understanding of programming.

As you know I thoroughly enjoyed this class both the content and the style. I've always been the type of person to try to figure things out on my own, which is what this class allowed me to do. When I was younger I thought jail breaking my iPod was cool so I googled it myself and figured it out, as I got older I would open my Xbox, google the issue and then fix it myself, in this class I would google my issue, find the error and then fix it myself. This class style allowed me to do what I've been doing my whole life rather than a teacher lecturing and making me feel like I have to

work on assignments. I worked in this class because I really enjoyed it. If I were given the opportunity to take this class again I would recommend that you do it the same way you did this semester. I've never had a class like this before, usually you can't talk to your neighbors, and you must raise your hand in order to ask a question. Your style of teaching treats us like adults; there is a mutual respect for one another. It never really felt like we were in class, it seemed as if we all just met in a room to code and ask each other questions. This class should always be taught in the friendly environment that existed this semester.

For my grade this semester I would like for you to report an A. I did not complete my goal this semester but I worked hard to finish the assignments I was able to finish. I did a lot of code academy and lots of trial and error to figure this out on my own and that was not easy. As a classmate, I helped people understand basic code and got them through any basic problems they encountered. Looking back on the semester I believe if I had a professor that had grades I would have deserved an A.

ISAT 252 Essay  
Reflection  
Ken Trumpoldt  
5/1/15

My expectations for ISAT 252 did not match that of the quantity and quality of work that was produced over the semester. Upon hearing that it would be a “choose your own grade” styled course I imagined myself slacking off and using my spare time boost other course grades. I did not have the foresight and optimism to predict that I would achieve as much academically, on my own time, that I actually did.

My original goals revolved around the course objectives of completing miniature programs Exercism. I was also aware that other students in the course had never programmed before. Therefore I made it an objective to help those students with their issues.

As the semester progressed I quickly realized that I was not completing the Exercism tasks. This was because I had no interest in completing them and there was no “reward”, or grade, for completing them. Before the beginning of the semester there existed multiple programming projects that I already had interest in. I began taking Dr. Benson’s advice at the beginning of the semester, “You can work on anything you want to work on for this class”, to heart. My goals slowly shifted into areas of my own interest. I made sure that the goals in which I helped others remained, as they were important to the “you matter to us” campaign of the course. Throughout the semester I largely worked on this personal programming projects and practiced writing code to prepare for interviews.

I felt that I was very successful in the quantity of personal project work completed. I made significant process on an Android application I was already developing, two Java scripts that run in the environment of an online game to control the game avatar, and in the completion of many problems involving problem solving and programming. The first Java script I had completed was largely successful in the botting community. The quality and abstraction of my programming greatly improved over this semester. I was also able to get Bluetooth working on my Android application and successfully share data between two devices. This is considered a crucial accomplishment in the app development world. The problems I practiced help me to successfully solve a problem and observe its time complexity in a Google interview. In a larger sense the specificity of the goals I listed improved and the purpose of my goals improved overall.

I certainly failed to progress through the Exercism exercises. However I was ok with this failure – it truly did not interest me and the subject matter that I would learn would have been less valuable than the experience I attained through my projects. On several occasions I was also unable to complete specific project related goals. This just requires better planning and foresight to ensure that I have the available resources to meet a deadline. Perhaps my biggest failure was missing a sizeable amount of class. This was largely due to the high volume of interviewing I had this semester which is beyond my control. However, there were a few moments of weakness in which I simply could not be bothered to come to class and did not.

I feel as if JMU's mission statement to produce "educated and enlightened citizens who lead meaningful and productive lives" pertains more to the learning a student is exposed to outside of their field of study. While I certainly learned a lot about Computer Science through all of the programming I managed this semester (which could be considered educated) I did not feel as if the class enlightened me. Some of the Gen Ed classes I have taken have opened my eyes to a larger scope of worldly and universal matters. Programming keeps me in the scope of the thoughts in my head and my computer. It does not urge me to think philosophically.

My activities this semester have only enforced what I already knew – I want to be a problem solver and developer long term. If all of the interviews I completed over the course of the semester count as part of the course then the scope of what I learned about myself and who I want to be short term and long term heightened and became more transparent.

This style of course worked much better than I had assumed it would. The benefits of learning in my field of study were stupendous. The amount of project tasks I completed were also incredibly numerous.

I imagine it worked so well for me because I was already a programmer. Therefore I was already interested in working on programming projects for the class. For someone who is new to programming the teaching style would make it very difficult for them to be proactive. It is difficult to pick up on new concepts and programming is no exception. I would advise that you show students some of the insanely awesome things you can do with programming at the beginning of the course. Also stress the value of computer science and programming in today's society. This would increase their self drive and willingness to learn to program on their own without someone riding on their back.

I would like to have an 'A' reported to the registrar for this course. My goal specificity and coding standards greatly improved over the semester. I was also able to help numerous students (inside and outside of the class) solve programming issues. The sheer volume of work that I achieved on my personal projects was also much higher than I had anticipated.

Austin Carr  
Exit Interview Essay

My expectation coming into the class was that I would have a nice chunk of time to be able to work on any project I wanted to, because I already knew how to program, and I would be able to pick my own grade. At the beginning of the semester I wanted to learn Ruby on Rails. I had a book I was following, but I wasn't able to complete as much work as I wanted to during each class period due to classes being so short. Working on something, then having to stop and switch back to it later isn't that great of a way to learn. You kind of end up having to have a review session before you start when you're following directions in a book. So, my goals changed because of that. Instead I decided that I was just going to work on a small JavaScript project, something where I could make progress in a small amount of time, and I wouldn't be following along in a book.

The project ended up being a Chrome extension that would parse out comments on Reddit Ask Me Anything (AMA) threads. With a simple mouse click, a user could parse out all of the questions that the creator had replied to. So instead of having to search through a bunch of unanswered questions, or answers that may be hidden in a bunch of other nested questions, they can just see all of the answers at once. The extension works exactly how I wanted it to, and does exactly what I set out to do.

I would say that the only ways I "failed" to achieve my goals is that the parsing algorithm is N<sup>2</sup>, and also there are a few edge cases that don't work. The parsing is something that could potentially be sped up, but I haven't done too much thinking in that department on how to do it. I was happy that it was working at all. Plus, I added a loading image, so the user can tell something is happening instead of having a blank screen. The edge cases I mentioned require more thought than I'm not sure are even worth dealing with. One case, for instance: A user asks a question, another user replies to the question, then the author of the thread replies to that reply. My parser won't get the comment from two replies up that has the question, only the reply and the author's answer. So, in that case it may confuse the user who the author of the thread is actually replying to. I also haven't uploaded the extension to the Chrome store yet, which I planned to do originally. So I guess I failed in that respect.

I think the main thing I need to work on regarding failures is to just do something about them. Most of the things I just listed are easy enough to do, I just didn't have the motivation to address them. I think in my head, "Oh this'll take forever" when in reality if I just sat down and did it, I could probably finish in an hour. It's just paralysis by the seemingly daunting task ahead, and when the only motivator is myself, it's hard to move forward.

I guess I feel more educated. When you make something, anything, you're always going to learn something new. I don't know about enlightened. I'd say that

sort of thing comes more from classes that I know nothing about the subject matter. Those types of classes let you think about things in your life that you'd never thought of before.

Working on a browser extension kind of helped reinvigorate my desire to work on web related stuff. I'd worked on websites back in middle school, but stopped for reasons I can't really remember. After doing tons of non-web related programming over the years, it was quite enjoyable to work on something that involves visuals so much. I started looking into front-end web dev jobs because of my renewed interest.

For me personally, I didn't participate in any of the programming exercises. And I'm not sure that working in so many languages is helpful for people just starting out learning to program. It's a lot of breadth and not a lot of depth. Sticking to one language and going in deep with all of the intricacies would be a whole lot more useful. Once you know *how* to program, the language doesn't really matter a whole lot. I'd recommend that it be done differently, with only one language, and with a bigger view of how programs work. Some kids were getting confused with variables, and I think if a couple minutes in class were spent talking about how they worked, it would be a lot more valuable.

You can report an 'A' to the registrar for me, because if I get to pick my grade then I'm going to choose the highest one.

### **End of Semester Narrative Paper**

Coming into ISAT 252, I was expecting to do some programming in a relaxed, laid-back environment. I formed this expectation based on what a few friends had told me who were in this class during previous semesters. The main goal I set for myself was to gain exposure to a new programming language and try to learn its basics. I also hoped to be able to help some of the beginning programmers in the class since I am a computer science major and have been programming for quite some time now, using languages like Python and Java. However, over the course of the semester, my goals evolved a little bit. Learning the basics of a new programming language was still a part of my plans. After looking at the available languages, I chose to give Go a try because I didn't know anything about it. Unfortunately, I no longer had the time to really help other students in the class. Having three high-level computer science electives in a single semester turned out to be a lot more work than I had anticipated, so I began to use our class time to focus on my never-ending list of projects.

I was successful in a lot of ways in this class throughout the semester. I learned some Go basics just as I had wanted to do. I did all of the available Exercism Go exercises, including hello world, hello variables, and operators. I found a few good Go examples online to help me complete these exercises. I was also able to successfully finish all of my pending computer science projects. The project I spent the most time working on in our class was an Android mobile application that was a semester long group project for CS 480. Due to unexpected circumstances, CS 480 class meetings were cancelled from Spring Break through the rest of the semester. This made learning how to develop an Android application difficult because we no longer had class time to ask questions and receive help in person. Our application idea was pretty ambitious for being beginner developers, which made Android development even harder. Therefore, we spent hours upon hours working on our application each week, and being able to work on it during our class time was a big help. I would love to share the application with you if you are interested.

Along with all of my successes in this class came a few failures, of course. Although I experienced some Go basics, I would have liked to have spent a little more time learning a bit more of the language. I would have liked to do some research on what other people use the Go programming language for and why it was created, as well. But my other projects really took over towards the middle of the semester and I had to focus a majority of my attention towards them. This means that, as I stated earlier, I did not have the opportunity to help the beginning programmers in the class like I had planned on doing at the beginning of the semester. Luckily, I learned and grew from these failures. I learned that, even though I didn't get to broaden my Go knowledge as much as I would have liked, I still have the rest of my life to learn more about

Go and any other programming languages that I'm interested in. I am fortunate enough to be going into a work environment that strongly encourages its employees to continue their learning through many online and in-class courses that are provided for them, and that is exactly what I plan to do.

Upon the completion of ISAT 252, I can definitely say that I feel more educated and enlightened. I have another whole semester of programming under my belt and I gained exposure to new things, such as Go programming and Android application development. I also feel accomplished for taking on the responsibility of coming to class on my own free will and being productive. Even though we were not required to attend class, I came to a majority of the class meetings. Going to class woke me up both physically and mentally and enabled me to get my day started, make the best use of my time, and be productive. I have always known how self-motivated I am and this class has helped reinforce that for me. And the more programming and projects that I take part in, the more I know that I am in the right field for myself. In fact, I have accepted a full-time job with Goldman Sachs and will be starting work this summer in their technology division, so I will be able to put my technology skills to good use and continue to learn more.

Regarding the style of this class, I would say that it worked really well for me since I am a self-motivated student capable of taking responsibility for my own learning. I really do not like the pressure and stress of deadlines, so just being able to work at my own pace was a refreshing change. I would not recommend changing the style of this course much at all. However, if I were to take this class again I think it would be nice to have a few more Exercism Go exercises to try out. Go is not well documented so searching for exercises online wasn't very easy. It would also be cool to review code together as a class to point out both good and bad coding habits.

With all of that being said, I wish to receive an A for this course. I feel like I made good use of my time and I certainly got a lot of work done. And, most importantly, I kept my passion for technology and programming alive!

Matt Slater

5/6/15

Morgan Benton

ISAT 252

Coming into this class, I was not sure what to expect. I had heard that you had a system where the students were able to choose their own grades at the end of the semester, but I still was unprepared as I had never been in a class like this before. I have taken a couple of computer classes before, and computers have always made sense to me. I have picked up different programs like ArcGIS, Excell, and other programs like that that are not always the easiest to understand, so I figured I would be able to pick up programming without much difficulty. With this in mind, I was set on completing all of the different tasks and missions that you would be giving us. However, as the semester drew on, I began to fall more and more behind in your class. I took a couple other difficult classes this semester, so those began to take over the majority of my time.

At the beginning of the semester, I was keeping up with everything. I got everything downloaded and organized correctly, and began working on the first couple of missions. However, I was never really able to understand the programming language, it just never really clicked for me. I was able to figure out the "Hello, World" and "Hello, Variables" missions for a few of the different languages with research and help from some of the other students, however I soon ran into some problems. I had a lot of difficulty downloading and organizing the new languages, and even if I was able to download them, it was very hard for me to get them into my path variable and onto the command line. The whole process was confusing, and I never was able to get a good grasp on it from the beginning.

This class was a good learning experience for me. Coming into this class, I knew that I wanted to concentrate in environment and biotech, but was unsure about my third sector. It was quickly apparent to me that this was not the sector for me, so I concentrated my efforts elsewhere. There was not much motivation for me to focus on and try to understand the different processes of programming because I knew that I was not going to use it in the future and was able to choose my own grade, so there was not much motivation for me.

Although this course did not enlighten me in the way it was intended to, it did help me understand some of my weaknesses, and help me decide what I want to focus on now and in the future here at JMU. This class requires a lot of intrinsic motivation, and I just did not have it. This lets me know that programming and this field are not for me, which helps me make decisions about what I want to do with the ISAT program. This class would be very helpful for someone who wants to focus on programming, however it just wasn't for me.

This course style worked well for me. It allowed me to focus on the class when I had the time and motivation, and allowed me to focus on other courses when I had a lot going on in those classes. If I was to take this course again I would do it the same way. However, I wish that there was a little more hands on help from you and the TA rather than just the first couple of weeks.

Each download process is so different that it is hard for beginners to pick up on and correctly download and organize each new language. In addition, each language is so different that a quick overview would be helpful before we jump right in. I understand that a lot of programming is picking things up and figuring them out for yourself, but it is very difficult to get into it when you are going in almost blind.

I would like you to report an A to the registrar for me. Although admittedly I did not always put my best effort into the class, I believe that I tried, and would love to get an A.

Joe Luther

Dr. Benton

ISAT 252

5/6/2015

What were your expectations coming into this class?

Coming into this class I was expecting to learn the basics of programming and hopefully learn a couple of different languages. I also heard that the class was in some ways self-taught and I was interested in learning about website design/creation.

What learning goals did you set for yourself?

One of my goals was make a better attempt to go to class, because it has never been my strongest area for morning classes. Another goal I set for myself was to learn at least 3 programming languages.

How did your goals evolve over the course of the semester?

I eventually learned the 3 languages so I changed the goal to 4 and then 5 eventually.

In what ways did you feel you were successful? Please refer to specific, concrete artifacts that would serve as evidence of your successes.

I was successful in learning 4 languages including php, r, javascript, and, python.

In what areas do you feel you failed to achieve your goals?

I eventually started to stop pursuing the goals as hard and did not explore languages outside of the exercises provided in class.

Please reflect on what you think you've learned from your failures, and what, if any, plans you have to address those issues in the future.

In classes similar to this style in the future it would be more beneficial for me to pair up with someone in the class that also wants to go deeper into the subjects of the class so that we can push each other to continue to go deeper even if we complete all of the exercises or assignments in class.

JMU's Mission Statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." Do you feel more educated? More enlightened? Less so?

I really do I appreciated this class and the fact that you did not just attempt to teach us programming but to actually enlighten us to things outside of the realm of isat or jmu or Harrisonburg.

How have your activities this semester contributed or detracted from your knowing yourself better and having a better grasp on what you want to do in the near or distant future?

This class did show me that I wanted to sector in IKM. It was definitely exciting at first to learn about the command prompt and to learn a little bit of a few languages. These things just sparked an interest in me that other introductory courses for various sectors in the program did not so I have decided that I want to learn more about programming and can see that I could use that knowledge in a variety of ways once I enter the work force.

How did this style of course work for you?

I don't think it is the best style of work for me, in general it helped me be productive in the morning but overall as an introductory course to a subject I knew nothing about it was hard for me to get finished.

If you were to take it again what would you recommend that I do it the same or differently?

More exercises

Maybe youtube tutorials?

Maybe create that buddy system so that people don't stall out like I did

What grade would you like for me to report to the registrar for you, and why? As per our agreement, please remember that you can ask me to report any grade that you would like and I will honor that request.

I would like to receive an A in the class. This will help my GPA which is not in the best shape is the honest reason.

Hunter Wines  
ISAT 252  
Spring 2015

- What were your expectations coming into this class?
  - My expectations coming into this class were very high. I spent the entire first week of the semester unofficially enrolled in the class because of the great things I had heard about it. I knew learning from you would be an experience like no other and I wanted to be a part of that at all costs. Once I was finally in the class I had even higher expectations for the class. I expected to learn a lot about programming and in a unique way. I liked learning at my own pace and amount information I could handle. I expected our relationship to be very informal and relaxed. I expected to work hard and in a way I have never worked before. I didn't even know what the terminal was on a computer before I started taking this class. I know very little about computers and I was excited to learn something about them.
- What learning goals did you set for yourself?
  - This semester I wanted to get a basic grasp of the fundamentals necessary to program. I wanted to learn more about a computer and how it worked. I wanted to learn how to write code to make the computer do something I didn't know it could do. I wanted to get a basic understanding of a few programming languages and the different uses of those languages. I wanted to learn why we use certain languages over others and what they are used for.
- How did your goals evolve over the course of the semester?
  - My goals evolved over the semester because my original goals were compete. I wanted to learn more about programming once I got a basic grasp of the fundamentals. I wanted to not only learn more languages but more exercises I could complete in the languages. I also wanted to build a better relationship with you. There for a while I just felt like another student in a class and I wanted you to know my name. I like when my professors are concerned as to why I am not in class. I experienced something with my health that I hadn't experienced before and it put a damper on my semester. I am glad our relationship evolved into you being concerned as to why I wasn't in class, but confident in that I was still doing my work without being physically present.
- In what ways did you feel you were successful? Please refer to specific, concrete artifacts that would serve as evidence of your successes.
  - This semester I learned basic programming skills. I mastered hello world and hello variables in four different languages. This is way more than I could do when the semester started. I feel good about the 4 languages I learned because I feel like they are practical for everyday use. For instance, I used R almost everyday in my 251 statistics class and I feel like this class prepared me to do that more efficiently. I also understand how a computer works a little bit better now. I used to think it just did whatever it was supposed to do, but turns out it hardly does what it is supposed to do. We have to manipulate a few things to get something to even work. I didn't know what the terminal was on my

you don't get the hands on training that we got in this class. I liked that you focused on learning and not grades. Grades make us memorize material, not learn it. I don't remember much from my general education swim class other than I shouldn't eat candy because we just memorized facts for the tests.

- If you were to take it again what would you recommend that I do it the same or differently?
  - I would like a little bit more feedback throughout the semester. I have no idea if my programming was good I just know it worked. I feel like style is a big part of programming and I would have liked to learn a little bit more about what good style looks like. Getting feedback on how I was doing would have encouraged me to learn more languages instead of trying to perfect the ones I did learn.
- What grade would you like for me to report to the registrar for you, and why? As per our agreement, please remember that you can ask me to report any grade that you would like and I will honor that request.
  - I would like for you to report an A to the registrar. I learned more in this class than I thought I would learn. I now know more languages than I even know existed. I learned more about where stuff is on my computer and how to use those resources than I even thought possible. I learned a lot about myself and what I desire to do in life as well. Learning the material and learning about myself embodies JMU's motto to produce educated and enlightened citizens and I feel like I contributed to that through this course.

This semester, I wanted to learn as much as I could about programming. I wanted to earn all the badges in all the languages and gain the skills I would need for future computing classes. Through the beginning of the semester, I think my goals were pretty consistent with what I'd set out to do in the course, but due to other factors I fell very behind. In the middle of the semester, I found out that my uncle had passed away unexpectedly. This came as a major shock to me because he was so young and it just didn't seem to make sense. I went into a downward spiral-not getting out of bed. Eventually, when I would get out of bed it wouldn't be until noon when my roommate would force me up. This was especially hard for me to digest because I was not able to go to the funeral or go home at the time to be with my family. Eventually, my friend got me to go to the counseling center so I would have someone to talk to about this tragedy.

When I finally started to get my bearings again and go to class, I was informed that a friend of mine in my sorority, Marisa, had passed away. I fell, again, into a hole of grief, but this time it was slightly different. I live in the Alpha Phi house and the house was used as a kind of crisis center for our sorority that I could not get away from. I felt like as soon as I was able to get focused on work or something else, one of my friends would come into my room crying and needed me to be there for them, or I would go to the basement to use the microwave and there would be a police officer questioning her best friend. The whole 'mass grieving' process is extraordinarily difficult, you feel like you have hundreds of girls going through the same thing, but then you also have those same people watching and judging your every move and going through the grieving process in a very different way. It was a hard time for me, but it was even harder to have to watch all of my friends, some of whom had never lost anyone, go through the stages of anger and denial and just deep sadness. I don't deal well with death, not that anyone does, and I was overwhelmed. When I started going to class again, I couldn't focus, not to mention the constant stream of questions coming from my classmates surrounding Marisa's

death. People can be so cruel and some of their questions and comments deeply bothered me. Both of these deaths were very hard for me to come to terms with. Neither of them had explanations and both were so unexpected, I felt like I was in a nightmare. I fell so far behind in my classes that I ended up having to drop a class, in the middle of the semester, which is not like me at all.

I would say that I feel more enlightened and educated. Even though I was not able to put as much time or effort into the class as I would have liked, I did see how much I enjoyed working with computers and technology and decided to sector in IKM and telecom. As much as I can appreciate the style of the course and the motivation behind it, I don't think this style worked well for me this semester. I think that if I weren't so distracted, I would have done a lot better and be able to self-motivate more than I did. I think I do better with a more structured set of goals for myself, but I can't honestly say that it would have made a difference for me this semester. If I were to take the class again I think I would have wanted to try the points system that you had talked about at the beginning of the semester. I would like you to report an 'A' to the registrar for me, please because honestly, after the semester I had, I know I'll need the GPA boost.

Mike Bastacky  
ISAT 252  
Morgan Benton

## Narrative Essay

As a graduating senior, I came into this class with zero expectations. I'm a political science major and I have not taken more than 2 or 3 classes that have anything to do with computers or program development since I came to college. My hope was to familiarize myself with a field that has incredible potential for growth. I wasn't sure if jumping right into a 200 level ISAT class from a liberal arts major was going to be something I was capable of, but this was really a class that anyone can be successful in. After talking to a friend of mine who suggested this class to me, I assumed that I would be learning two things: the basics of writing programs and how to set up a website. As far as goals were concerned, I wanted to add a new skill to my resume so that I could be more marketable to employers. I wanted to get experience with multiple programming languages and see how they differ from each other. From my own experience, I've used programs that I downloaded from the internet that are associated with names like javascript, php, html, and several others. Name recognition helped me draw some parallels between applications that I use on a daily basis and how people behind the scenes use coding to produce them.

As the semester progressed, my goals remained relatively stagnant, which I think is okay for someone with no background in programming. Compared to classes that I've taken that teach you how to use the Microsoft Office Suite or programs like SPSS, this class explored an entirely different universe of things you can do on a computer. It seems inherently obvious, but I had never opened up terminal to navigate my computer using a command line. That was the first thing I noticed about this class that was going to be different from anything I had experienced in the past. I had no idea that you could use a syntax of words and symbols to download things from the internet and tell your computer to open up programs. Retrieving hello-world and hello-variables exercise from the course website and submitting them with a phrase that I typed out on an application on my computer was really cool and new to me. I had a difficult time adjusting to the logic of writing programs, and I think it was good for me to be exposed to it because I've never familiarized myself with this discipline before and it was a new way of thinking. I thought it was interesting how hello-world is implemented as a universal exercise for every programming language. I began to understand after completing the exercises for a few languages that the only real way to learn this discipline is to consult the manual. The manual tells you exactly how to structure the syntax of the lines of code so that the computer recognizes the validity of the commands. Although I still lack a complete understanding of how these languages work, I recognize that there are fundamental patterns which can be applicable to all programming languages. I think it's great that forums like stackoverflow exist where people with more experience in coding can help you out when you get stuck. It's just like yahoo answers where people rank the best responses, and I see it as a great way to get quick and helpful answers.

As far as my successes in this class are concerned, they are few and far between. I don't think I got through as many of the exercises in this class as other people, but at the same time I don't it's a reasonable comparison to ISAT majors who are going to need to know this material to do well in future classes. I completed hello-world and hello-variable exercises in html, php, and python. I attempted the exercises for Java or Javascript (I can't remember which one wasn't

Mike Bastacky  
ISAT 252  
Morgan Benton

working). People in class were great, they helped me out when I couldn't figure out how to write a function or something of the like. I didn't violate any of the rules of collaboration that the professor had specified at the beginning of class, so I did the work on my own and improved my understanding of how programs work.

So now, my failures should probably get some discussion time and I can take some time to reflect on how to perform better in future work endeavors. Let's get the obvious things out of the way. I attended somewhere around 10 of the 40 classes that were scheduled for the semester. It doesn't matter what subject you're trying to learn, there's no way to get your money's worth out of a \$1000 class if you aren't going to it. My understanding of this subject is beyond incomplete, and it's not the fault of the professor in any way at all. Call it a case of senioritis if you will, I didn't do nearly enough work in or outside of class. Professor Benton was always available to answer questions and meet outside of class during office hours, and I went once at the beginning of the semester to make sure I had everything I needed on my computer to be able to do the exercises. It was a helpful session and I'm glad that I went. I realize that this type of work ethic would get me fired from any job I ever had. If you don't show up to work, how can you ever get anything done? To be completely honest with you Professor, I took this class to fill up my schedule and boost my GPA so that I could focus on my other classes. Throughout my college career, I've changed my major quite a few times and to this day I still haven't found one that I could tell you that I like. I started off as a Business Management major and realized there was no way I could finish college in the school of business. I think they call it being "right-brained". My academic successes at this university have come from my work in language and writing. I'm graduating with a B.A in Political Science and a Legal Spanish minor, and without even going to this class on a regular basis, this semester was the hardest one I've gone through in my entire time here. I'm low on sleep, I don't have a job lined up, I'm scared man. I really don't know what's coming next for me, but I know that when I find my moment of clarity and realize what it is I'm supposed to be doing with my life I'll be way more dedicated to what I do.

JMU's mission statement goes beyond what I've taken away from this class. If you're asking me if I feel enlightened from this class alone, I can only say that I have been to a limited extent. I'm not going to sit here and be mad at myself for that. I wish you could see how much progress I've made in the four years that I've been here. I really have come a long way. The relationships that I've created, the papers I've written, the tests that I did well on in subjects I hated. I proved so much to myself about what I'm really capable of. There's been semesters that I've done better in than others, and although there's not really a pattern, I know that when I was doing well in school it was because I wanted to do well for myself so badly that I would do everything I could to master any discipline I approached. I was actually just talking to my mom about it actually, there was this one day in my Oceanography class when I went to talk to the professor because I failed the first two exams. I can't remember what he told me exactly, but I remember walking away from that low point and thinking that if I organized my life into different categories and approached every challenge in each discipline from a logistical standpoint, I could get the results I was looking for. I ended up getting A's and B's on the rest of the exams for the semester in every class I was taking, and it was the best GPA I had received in college. I started working out five days a week and I lost 25 pounds that summer. It really must

Mike Bastacky  
ISAT 252  
Morgan Benton

have been one of the best times I've ever felt in my life. Upon my graduation, I'm doing decently well for myself, and even though my grades aren't exactly as good as they were that one semester, I know what I'm capable of. I need to get out of this town and this environment and get back to where I need to be. Sorry for this page, I know it's not entirely relevant to the class but I figured if I was going to submit a mandatory assignment to you I figured I would give myself a realistic evaluation in my final semester here.

Does this course style work for me? Absolutely not. There's zero accountability, I knew what I was getting myself into before we started. I found a loophole in the system and all I can say at this point is thank God, because my GPA needs it terribly. I need an attendance policy, I need a 9-5, and I need a regular schedule. College wasn't easy for me, and while writing this paper with almost no sleep I can tell you I'm glad it's just about done. I think it's interesting how you've shaped this experiment though, and I think that there's plenty of kids in this class that have really benefited from it because they can learn programming without the heat of being graded on every assignment. In the future, I think the decision is really up to you to decide whether or not to let people pick their own grades, but I agree with you that grades aren't the best indication of how much someone has learned. Hopefully the style of this class has given people the chance to measure success on their own terms. I really hope that you don't think my level of respect for your class and what you do as a professional is reflective of my attitude and what I've done this semester. I think that people with math and science brains do incredible work and make the world a much better place to live in. Technological advancements have increased the human capacity to do work, and programmers make so many contributions that don't always get the recognition they deserve. I'm glad that I had the opportunity to take a look into this field and realize it's not for me. I guess the best way to figure out what you really want to do in life is by process of elimination.

For my grade, I would like to request an A-. There is no justification that I could provide based on academic standards that would make my decision an appropriate one, but I think that I should graduate and add a little boost to my GPA. I've worked really hard here, and I know that even though I still have some growing up to do, I made it to the end and there's so many people that can't say the same. Thank you for putting up with me. I didn't see this paper turning out like this, but in the 4 hours that it's taken me to write it I feel like I've come to terms with where I am at this point in my life. Take care and good luck in future endeavors.

Will Mullery

ISAT 252

4/29/2015

### Exit Interview Paper

As a finance major in the JMU College of Business, hoping to pick up a minor in Computer Information Systems. I enrolled in this class to fulfill that requirement and discover if a CIS minor was the route I desired to take. When I first enrolled into this class and then confirmed registration, I was simply looking to fulfill the 10 extra “non-business” elective credit hours and hopefully knock out one of my minor prerequisites. However this class did not fit nicely into my schedule and I was hesitant and nervous enrolling in a class with none of my friends and on the other side of campus in which I practically knew nobody. Despite these previously mentioned factors I figured I would enroll in ISAT 252 hoping to finally discover if the Computer Information Systems minor or even perhaps double major was the correct route for me to take in my college career. I had always had a rough idea that this was the path I wished to take due to the fact that I aced my previous CIS class, enjoyed dealing with computers/hands on type learning like this and really wanted to learn how to design programs/applications, but I could never quite make the leap to do so. I knew that if I took this class it could confirm whether or not I should continue on the path I was taking. So once I finally bit the bullet and confirmed to take this class I was ready to tackle what was about to come my way, as well as anxious/excited for the course to commence. Although I had some rough outline of what to expect I was in reality completely unaware to what I was getting myself into. After the first day of class I was eagerly anticipating the rest of the course as well as my potential future within this field.

I was fascinated by the class structure for I have never experienced such an open-ended style of educating or this type of freedom in any of my other core classes whilst attending JMU. Quite honestly I loved it. When I take classes like this, with such freedom, as I did with many of my high school classes, opposite to the boring, by the book repetitive form of education I find myself learning more about myself and others around me. Perceiving myself as an open minded person, I enjoyed this. Not knowing any other members of the class, I decided to engage in conversation with my peers in hopes to make new friends, learn about discussing code, and learn exactly what it is ISAT majors do and wish to pursue a career in. As a result I began to gain a much greater respect for, and be intrigued by what ISAT majors do and learn.

Once I discovered that some of my peers had previous experience with coding, and such technological background I made it another one of my goals to try and be able to comfortably talk about, and learn more about coding through my peers. Fortunately at the beginning of the semester I found myself being able to learn from some of my peers and began expanding my knowledge. However I quickly learned that some of my classmates had a lot stronger backgrounds in coding than I previously speculated and conversing with such experienced peers became problematic. Although I learnt slowly at the start I began to feel intimidated by the amount of knowledge they had, compared to my lack of experience and we began to drift. Despite experiencing such a negative outcome, I actually found other fellow peers who were in the same boat as me and I was able to connect with them and therefore we were able to slowly learn and build our knowledge together at our own pace.

As I mentioned previously I took this class hoping to discover if I wanted to pick up the CIS minor. Unfortunately after discovering the career path of what someone in the CIS field pursues and enlightening myself with material I would expand on as a CIS minor I have ultimately decided to no longer continue this choice of minor and therefore see it as both a success and failure. I view this as a failure because I could not continue to have the passion for a Computer Information Science minor that I once formerly thought. However I also see this as a success because I was able to solidify that the CIS minor was simply not for me. I also believe I had failed because a big problem of mine was being able to make it to class some days due to very poor illness this semester such as the flu, strep as well as heart pains on top of all this. I know this is not a direct failure of my own doing because I have no control of this, however I felt that by not being able to attend class every day made it harder for me to get the full experience of the class and this was a major set back of one of my goals.

It was clear that I discovered myself more as well as my career and educational path due to determining that Computer Information Systems was not for me. Despite this, I would certainly recommend anyone in my situation who is debating these choices as a Business major to enroll in this class and discover and grow your knowledge on what you are potentially getting into, in order to make an educated discussion. I also felt I grew as a person because I was able to expand my time management skills. This is because this class did not fit to well into my schedule at all; forcing me to take three classes in a row, with both classes before and after this being on the other side of campus. Although this does not seem to be to problematic on some of the days that I had tests in other classes, learning time management skills was an incredibly valuable asset.

Although this style of course work and classroom structure is considered to be rather unorthodox compared to the standard classroom and educational format, I defiantly enjoyed this courses framework. I completely agree with your mindset that the grade a student receives is not nearly as important as what you learn and that the standard structure of the grading system is skewed. I believe this is because people learn in many different ways and someone who is clearly a better writer will receive a higher grade on an assignment over someone who is much more math orientated and will then be perceived as the “smarter” student. Other students may learn in different environments, be poor test takers and most pupils unnecessarily kill themselves over a virtually meaningless letter grade given to them by a professor that costs them literally nothing. I believe that because of this idea, GPA’s can either be negatively or positively skewed for students all across the school and I agree with your philosophy on that. That being said personally I do like watching professor demonstrate how to do something when learning a new topic, therefore I would personally like to be shown how too, and walked through step-by-step in how to write particular code in this course. However this is just my style of learning and I wouldn’t recommend redesigning the course due to one individuals learning style because as you know we are all learn in different ways.

Overall this course was unquestionably different to any other course I had taken at JMU; with that being said, I found it to be extremely enjoyable and I would take it again without a question. I would recommend this course to anyone of my fellow JMU peers who enjoy expressing their creativity within a free environment, anyone who is debating picking up a CIS minor/major, or anyone who is willing to try something different that they would not normally do unless given the opportunity such as this one.

Finally the grade that I would like for you to report to the registrar based off my personal accomplishments this semester would be an A. I have discovered a lot about my career path and am very thankful that I decided to end up enrolling into this class.

From this class, I've learned a lot about myself, as well as different teaching styles. My expectations coming into this class were based on things I had heard from other students and ratemyprofessor.com. I came in knowing that I had to be self-motivated if I wanted to learn anything from this class. I knew that, even though there was the option to pick your own grade in the class, I wanted to get a lot out of this class. Learning goals that I set for myself were pretty minimal, as I didn't know much about programming. I know I just wanted to be able to know how to code by the end of the semester. Over the semester, these goals pretty much stayed the same. I wanted to be able to look at code and be able to understand how it was made and what each function did, or at least begin to understand that.

I was successful in the beginning of the semester. I believe it was because the class, as a whole, was more cohesive. You would lecture occasionally, which was very helpful because it gave us more of an understanding of what we were doing, rather than us just learning code and not about what it's doing. I liked that you had us ask classmates first before coming to you with questions because many of already knew answers to my questions and I rarely had to go to you for help. I believe the biggest help was that you would check in with everyone and make sure that everyone was up to speed on the programming assignments. At the beginning of the semester, I was able to complete Hello World and Hello Variables in almost all of the languages. I completed them in php, Java Script, Python, Ruby, and R.

I wasn't successful as the semester progressed. If I was asked to write code for one of the languages above, I wouldn't be able to do it. When operate became available is when I began to slack off. I believe that it was partly my own fault and partly the fault of the class setup. There were no more lectures for the semester, and I believe that hindered my progression of learning what we were working on. The class didn't really work together on programming anymore, but instead worked separately on their computers for other classes. It's really hard to stay motivated in a class when no one else, including the professor seems interested in it. I spent most of my time during the last half of the semester working on assignments for other classes, because doing the programming sets no longer seemed as important as work for my other classes. From my failures, I've learned that I should be more self-motivated to do assignments on my own and seek knowledge on my own terms, rather than not do my work because the class isn't. This is really difficult, however, with a busy schedule full of assignments with due dates. I did like that this class was a de-stressor from the other classes I was taking. I didn't have to worry about getting work in on time and could focus a lot of time on classes that did have strict deadlines. I didn't mind getting up and coming to class because it wasn't a strenuous class to come to and do work in.

After this semester, I do feel more educated and enlightened, mainly from my ISAT 253 and ISAT 212 classes. They've taught me important concepts that can be applied to many different classes. I've also learned great ways to take notes, study, and do assignments early from these classes. With this class, I believe it's taught me more about myself, however, it leaves me behind other students when I sector in IKM next semester. Instead of learning Python from this class, I have to seek education from online sources over the summer to hopefully have a decent understanding of it for the fall.

My classes this semester have helped me decide what I wanted to concentrate in in ISAT. Although energy is difficult, the amount of math involved in that sector has made me realize that I really enjoy figuring out problems in that class. My involvement in the Environmental club has continually enforced my love for the environment and the fact that I want to concentrate in environmental science. I got hired for a new job this semester as an Independent Contractor with MRY, in which I partner with organizations and facilities to educate students on facts pertaining to single-serve, plastic water bottle waste and promote the use of reusable water bottles, specifically bobble. That job has made me realize that I really like teaching students about ways that they can help the environment and I really enjoyed reaching out to different event coordinators and participating in those events through bobble.

The style of this course was difficult for me. I couldn't stay motivated throughout the entirety of the semester, and didn't end up finishing a lot of assignments, especially for operate. I feel like I wasn't able to take away much from this class and I feel like I will be behind next semester. That being said, I believe that more lectures would be very beneficial. There are people in the class, like me, who are complete beginners with coding and have no idea how to relate what we're typing, to what it actually does on the computer. For me, it was just as if I was typing a bunch of random words and symbols at the beginning of the semester. I believe the first week or so should be an intro into what programming is. I believe that you should have a set schedule of things you want students to do. I believe that, after that week, there should be at least one lecture a week at the beginning of class, probably at the beginning of the week so we know what to work on. I believe you should create things like operate before the class, so when everyone finishes with the first assignments, they have something else to work on. I believe there should be more exercises, as people with more experience with coding can have things to do during class, rather than just coming to class to work on assignments for other classes. I also believe that there should be quicker feedback about coding, as many of my submitted coding didn't have comments on them.

I would like to have an A for my final grade in this class. I did do a lot of work in this class at the beginning of the semester. As the semester progressed, I found out a lot of things about myself and my work ethic. I've learned that this teaching style isn't for me and that I personally need a more structured class with assignments and due dates. I believe that this class was a big proponent of self reflection and finding what works best for yourself. I believe I did this, and I've come to understand places that I need to improve on in the future.

My expectations for this class were very high prior to being enrolled in this class. I remember trying to get into the class my sophomore year before I left to go abroad. But unfortunately it did not happen. So I remember during my sophomore year I finally had the pleasure to introduce myself to you on an elevator ride to the third floor. We exchanged some words and that's when I talked to you about enrolling in your 252 class in for the next year. Unfortunately I was terrified to take it with Teate because when trying to use R in Dr.Radzwills class because I found myself frustrated and terrified of programming. So I had heard great things about your class and that when I decided to push to get into your class. Some of my expectations were to get a better understand of how computers while also hoping I could read code like some scene in the matrix when they stare at the green codes running through the screen.

The learning goals that I set for myself were to learn how to work with computers as well as learn the way that programming actually works. I am the type of guy that when I solve an equation I need to know what each variable means and what it does. I can't just say okay to anything because I want to know why it is the way it is. (sorry that sounds really confusing). I really wanted to understand the fundamentals of how everything actually fits together. Programming to me is like setting a set of instructions in order to tell someone to do something like making a burger or a sandwich.

My goals evolved over the course in a way that took me away from what was your way of teaching the course. I did find Exercism to be interesting but it was the type of work that really did not click in my head. I have a unique slash sometimes difficult way of trying to make sense of things. I really am impressed at how you were able to construct such an intricate system that allowed us to display our accomplishments. However I felt that code academy helped me understand more about how the codes become written. Code academy helped me by making sense of how to write the codes one small step at a time. Me being the type of person that has never ever tried to make sense of coding was really helped out a lot by this type of teaching.

I did feel successful at the beginning of the course when we were taught basic things like variables, path files, and all the other basic things that were presented to us on those first set of classes. I really felt that I grasped those concepts very well in the beginning. I felt like every time you asked us a question on that stuff I would know the answer. It felt pretty good also learning how to use command prompt. It made me feel more intellectual and look more sophisticated. I don't know what it is but there is something really rewarding that I felt every time I entered in something to the command prompt. I really got the hang of that when using the Exercism activities. I would even go home and look up cool things to try on the command prompt in order to get a better feel for it. The command prompt is really fascinating to me as it really

shows how a computer thinks and reacts. My other successes were completing a few of the badges on web page that was created for us. I still remember starting off with the PHP Hello World and Hello Variables and be very good at setting up the code properly and then using the command prompt to verify that it worked (which it didn't the first time) and then if not would fix it and submit it through the command prompt to the online site that rewarded us our badges. I also felt that I was very helpful towards the beginning of the semester when I helped out multiple people with using the command prompt and even doing simple things like finding someone a file that they were missing in order to run some of the programs. I also was really good at understanding how the Path and directories worked when using the command prompt. I felt that I also helped out people like Martin a lot on the first few exercises.

The areas that I failed to achieve in were the understanding of about fifty percent of the exercism exercises that I attempted in the middle and end of the semester. I felt that just by staring at the codes presented at me did not really help me understand what was being done in each different language. I felt like I just couldn't comprehend what was being displayed at me. This then brings me to the failure which was my failure to really seek help from other students. I admire Vicky because she clearly was helping people left and right and I could tell that she was really on top of her shit. I mean I would see her talking to you about stuff that I was never going to catch up to. Hence my switching to the Code Academy. I talked to a lot of other students and they seemed to be utilizing Code Academy like I was so I decided to focus on that instead.

What I learned from my failures is that I really need to seek help in the right way. You yourself got mad at me when I couldn't explain why I wrote a code the way I did. I would always say I'm confused why the test didn't work and I would always say "Well Martin told me to do this" and then you would not help me. I understand why completely, there was no absorbing of information from just doing what my classmates said. That is why I need to research more and take the time to really comprehend why things need to be the way they are. I plan to seek out my answers with more information than just the answer slash solution. That applies to every class for me. I really need to know how to become my own bookworm or research professional when it comes to utilizing Google.

I definitely feel more enlightened as well as educated from this class. I really enjoy the way you present the class as an opened environment without the pressure of grades. I feel like classes should be taught more like this class. I just find the stuff you also presented in class was very eye opening to me. I absolutely enjoyed the TED talk as well as just talking about that famous celebrity that goes to JMU. I also just enjoyed the atmosphere that was given off from everyone in the class.

This class made me realize that this is the type of stuff I want to do in the future. I myself have researched the types of jobs and the different companies that hire people that are

proficient in coding. I really like the whole culture of it and the way everyone who is a programmer shares their codes with others. It kind of looks like an underground community of hackers and programmers. I want to be a part of that community so bad. I want to do things like fly out to California to hangout inside of a house of all types of intellectuals.

The style of course work is very interesting but I think it is really well laid out. It worked for me due to the fact that I really enjoyed being able to hop around with the different languages. If I took it again I would recommend that we work through some of the codes together in order to help give the class a better understanding of what is actually going on in the codes.

I would like you to report an A+ for me due to the fact that I came into every class that I could and always loved to try and help out and even just make the class a little better by talking to my fellow classmates. I also did my own stuff at home to help me with coding, however this summer I will be playing with code academy a lot more so I can get myself ready for the three hundred level classes.

### End of Semester Meetings

My expectations coming into this class were somewhat low in the sense that I thought I was going to be bored in doing the programming. This was only because I had a very small sample of past programming knowledge. At first I thought that you'd stand up in front of the class telling us what to put and then we would copy it right from what you said, because that is what I've done in the past. When I've done this though I didn't learn anything actually and I just reproduced what I was supposed to. Also I didn't think that I really liked programming at all because it was very meticulous and my future career doesn't really have to deal with coding at all. I didn't realize what I could get out of it before taking the class. Before the class started I heard that you got to "pick your own grade" which I thought was weird, and didn't really believe the other people that told me this information. I thought that the class was going to be a typical lecture and notes with us performing set tasks and then taking tests, just like every other class. I wasn't expecting the class to be like it was.

At the start of the class I set my usual goal to attend class as much as possible and really try to learn what was proposed in front of me in the class. I also set goals to complete every task that was assigned or possible. I thought that this was a very doable goal because the only programming that I did before this was R and it was in a statistics class where I had to basically copy what the teacher did to make graphs. Also we used R Studio and not the command line. Not aware of the time that it took to gain even a basic understanding of a programming language I thought that it would take no time of mindless copying and keyboard pressing. As the semester went on my goals changed from completion of everything possible and just getting numbers to actually understanding what I was doing. It would have been very easy to go to one of my friends and classmates and ask them to just tell me what to put down as my code and the submit that. Then I would have all of the languages completed and be done, but I didn't do that. I had my roommate and we knew absolutely nothing about programming before the class, but we took on the challenge by ourselves to try and learn it together and to compete what tasks and languages that were given to us. As the semester grew longer my goals changed from the overall lets get numbers done to an individual challenge of completing different languages by myself learning. I also realized the amount of time and effort that went into just learning basic programming skills and knowledge and I gained a respect for the time and effort. At the end of the semester I feel that I was successful in a couple of ways some that I wasn't expecting at all. I can honestly say that the most successful thing, even though it is intangible is that I have gained some overall patience. I was somewhat forced to in a way gain patience with programming, because nothing was spoon fed to me or simply given to me. I had to work and earn what results that I achieved. The results weren't instant like a test where you take it then you get it back and you scored a grade. This time I actually had to learn basic knowledge, the framework, then apply it, and then finally fix, edit, and correct it.

The process also gave me great appreciation of programming and a sense of such fulfillment when I finally would produce the correct line of code. This process was the same for every language that I did. I can honestly say that I have better patience because of this. Some of my other successes in the class throughout the semester were the languages that I completed and tested successfully. I successfully tested and ran the Hello-World test for PHP, R, and Python, the Hello-Operate test for PHP, R, and Python, and Operate for PHP. I was very proud of completing these tests, because it was all on my own with basically no knowledge of programming at all. I also learned and was successful with learning basic programming skills and even the terminology. Through researching and discovering which language did what and how it worked I taught myself and now remember how to perform basic tasks. I started watching this TV show called Silicon Valley which is about programmers and even though its fiction, I actually understood what they were talking about with some basic programming words. I count this as a success, because it was something that I wouldn't have known without taking this class.

During the semester even though I had many successes I did have some failures. I feel like I failed to achieve a goal of completion with all of the languages. Even though I achieved goals for the completion and learning of projects a part of me feels like I failed a little with how much I completed. The languages took a longer time than I thought and I realized that now, but I wish that I could have successfully completed a couple more languages in the tests. The only way to successfully complete more tests would be to spend more time focusing on the class throughout the semester. Even though there were failures I feel like I learned that your goals shouldn't always be about how many, but about how well. I didn't complete as many languages as I wanted to, but the ones that I completed successfully I devoted myself along with some others who really knew nothing about programming. So in a sense I accomplished what the whole goal of this class was and I started out with the same set of skills or lack of skills that every major programmer started out with. I researched and found out how to do something that I knew nothing of. I want to have a goal in my future classes to not just take the easy way out of things for a grade or completion, but to really be apart of the learning process of any concept. Also I feel that I could have spent more time being involved with coding and I feel that every year that I am in school I get better at time management, but it is an area that I can always improve.

JMU's mission statement is to produce educated and enlightened citizens who lead meaningful and productive lives. I can say that after this semester I of course feel more educated because in this case I literally had no knowledge or skill of programing. Before the class this was a subject area in which I knew nothing of and now after the class I feel more educated about the subject learning skills that I did not have before the semester. As to be more enlightened, I feel that to be enlightened is to have a better, clearer outlook on life itself, which I hopefully gain everyday. A goal that I always have had is to somehow gain something from each and everyday no matter what I am doing. After this semester and class I am more enlightened in the way that I have an appreciation for a subject and skill that I didn't have before. I am not ignorant to this application of what other people do for a living. Also I feel that, as I said earlier, have gained patience because of this class in

not always having my reward or gratification come instant. I had nothing to memorize I just had to do it and learn it on my own. In doing this it has influenced my patience level so that I realize everything is not instant and that I need to take my time when doing certain tasks. Also I feel more enlightened and educated in a mixture of the ways in that I was put in a real world setting. Even though this isn't my field or interest in the future it was what a job is like in that I was given things to complete and then I had to complete them. I wasn't spoon fed anything and it was only my fellow classmates and I working on these tasks to complete them together. In this way I have gained a valuable tool and experience of what is expected of me in the real world, not the college bubble where everything is just given to you and you have to memorize or reproduce the final answer.

My activities this semester have contributed into knowing myself a lot better and also into knowing what I want to do in my future. This semester especially I have gotten to know myself a lot better in a lot of aspects. At the start of the semester I had an unfortunate event happen where I was forced to sit down with myself and think about what I am doing here and why I am in this University. I've gotten to realize my priorities and goals that are currently in my life. I didn't think I would have this realization happen to me, but after a negative there are always positives that come from it. I think that last semester near the end I kind of realized what direction I wanted to focus on in my career and then this semester really enforced what I want to do. I learned that I have a passion for science policy and would love to pursue a career in that field. Knowing what a passion of mine is really elevates knowing myself better and then creating goals in what directions I want. Some of my classes that I have taken have contributed to this realization of what I would like to do both classes being what I do not want and what I do want. My classes and out of school activities have contributed to all of this in that I've realized what needs to be done in shaping myself and in completing goals of mine.

The style in that the class was taught worked for me in a couple of ways. At first I felt that I was left out to dry and didn't know anything, but after a couple of basic instructions that was given to me I then learned how to find out the information on my own. I realized that I didn't need to have everything spoon fed to me and that I can research how to do something and then apply it into the completion of tasks. It took me until the end of the semester to realize that I wasn't just thrown to the wild here, but that this is exactly how the real world job market is. I'll be given a task and then have to complete it within a deadline. No one will be there to hold my hand or give me a lecture on what I have to do. I have to use my own skills and research in order to complete the given job. Also I enjoyed the class structure with the freedom and no time limit to complete what you can do and do a complete job on the tasks that were presented. I don't really enjoy all of the structure and time schedule that is always on us so having this class was a really nice break from the normal. It was a breath of fresh air in having a class be different from what they've been since I can remember. If I were to take the class again I would recommend that you maybe explain a little more of the basic programming things before getting started in the course and then throughout keep informing that class of programming skills that are out there so that there is a constant flow of new information besides the tests for the different languages. Also a recommendation I have is to have each classmate be

split up into groups that they like based off of programming experience so that people who know nothing will be paired in a group with at least one person who has coding experience. This would help a group dynamic and then there would not be as much time lost due to being stuck on a topic.. I would recommend that you keep the structure of the class though the same with the relaxing atmosphere and not a strict schedule of events. Also the grading and your philosophy on grades I would also keep the same because I believe that it makes sense and is fair.

Over the course of the semester I have learned a lot from this class and really started this class knowing nothing about programming and now I have learned basic commands and know how to perform tests to run different languages. I would like you to report to the registrar's office an A for me. I feel that I learned a lot about this subject in which, I knew nothing about and that I gained some valuable knowledge about myself and how I work. I really gained valuable patience and a real world working experience with being just told not spoon-fed in what to do. I think that an A is the highest in what people value grades today and I feel that I've done everything that I've needed to in order to get an A and I feel that I deserve one. I feel that I didn't slack off which I very easily could have and I got a lot out of learning a subject and an appreciation of an area that I had no clue about. Through attending class on a regular basis and focusing on the work at hand I learned valuable tools in a once unknown subject for me.

Julian Hermes  
Section 002  
Final Paper

Coming into ISAT 252 I expected to do nothing, learn nothing, and walk away with a free A for a GPA boost. I had heard that this class had a "choose your own grade" policy and I was eager to take advantage of that aspect of the course. Before I had begun the class, I had no learning goals to speak of, but I planned to do a few assignments here and there. My biggest concern was feeling awkward about asking for an A when I had never shown up or done any work. I figured that since I had already taken some programming classes in high school I would not have much to learn anyways.

When I first started the class I remember running into a roadblock when I had to install php unit. The pathing for my programs simply would not work and it was incredibly frustrating. I was so frustrated that I resigned myself to fixing php unit despite all of the other work I was supposed to be doing. I finally figured out that I had to put my path in quotes, which was so simple that it made me even more mad but oddly satisfied that I had finally fixed it. I thought that even though nothing was mandatory it was kind of fun to mess around with the code, and from there I started to do assignments on my own when I was not swamped with other work.

During the middle of the semester I was really starting to get into coding, and I started to go through the hello world problems in the different languages pretty quickly. After that I set it as my goal to complete all of the available problems. It was kind of new for me to work when there are no deadlines or someone breathing down my neck. I was running into some problems on my own, so I decided to partner up with Troy and work on a bunch of the assignments. We got a lot of stuff done really quickly between the two of us. It turned out that when I'm not forced to do group work with terrible incompetent partners working with other people is really useful.

Towards the end of the semester pretty much all of the assigned problems were done and I had to switch over to the other exercism. I was pretty determined to branch out and do some of the problems. I thought that teaching myself some new things would be a valuable skill. It proved to be too much for me at that point because my other classes were piling up and I was relying on google for the majority of the coding.

I feel like I was successful in most of my goals until the end of the semester came. The pressure from other classes cause my work in this class to slow down and even stop at times towards the end of the semester. I did work on my own, I completed most of the work presented, I learned to work with people better, but I never quite figured out how to teach myself new things.

Julian Hermes

Section 002

Final Paper

I was able to do the first few hello world assignments without any nudging or deadlines from outside sources, I was able to complete all of the assignments except for the occasional assignment that was already coded for me ( java variables, python

operate), and I partnered up with Troy to get the hello variables and operate assignments done faster(Ruby, R, go, JavaScript). I feel like I did well overall when it came to completing my goals. The only place I faltered was when I got into the new exercism that required a lot of new coding structures that I had no idea how to do( I ran into trouble with the (Java etl and python bob assignments).

From my failure with the new exercism I think I now know that I learn better when I have some kind of discernable direction to go towards and a base idea of what I'm supposed to be doing. When we were learning with the hello variables and operate assignments I knew that the projects would revolve around variables and operators for example. The new projects were pretty obscure about how you were supposed to do them and what pieces of code you were supposed to use. For example the Bob project in python wanted me to get bob to respond in different ways depending on what I typed in. It needed an if/then/else type statement which I wasn't sure how to do in python, and it also need a bunch of functions that stripped extra spaces, decided if letters were capitalized or not, and other things that weren't immediately clear. I was able to figure out what I had to do and what the code did with google, but it didn't feel like I was actually solving anything. In the future I think instead of giving up and googling code when I can't figure something out I'll look for ways to do what I'm trying to do without just being given the answer so I can still feel satisfied when I finish.

I definitely feel more educated when it comes to computer science because I did a lot of it this semester, but I don't feel like I got enough depth in any one language to consider myself to be more educated in anything specific. I do feel more enlightened about the learning process. I think that high school conditioned me to learn because I had to and that killed the joy of it for me, and college mostly reinforced that mindset. I'm slowly rediscovering that learning is fun and I think 252 along with 152 helped with that.

I'm starting to have a better grasp on what I want to do in the near future and in the far off future, although I'm nowhere close to sure. For the near future I figured out that I would much rather do the information and knowledge management sector than the biotechnology sector. I was also thinking about designing some kind of program that would calculate carbon footprint and ways to reduce it or something of the sort for my capstone project in energy.

Julian Hermes

Section 002

Final Paper

For my long term future this class has made me vaguely suspect that I would do much better as an entrepreneur than working under other people and being subject to deadlines. The whole concept sounds unappealing and having a taste of freedom has somewhat reinforced those thoughts. I'm still in the very preliminary stages of these ideas but taking the class has definitely made me revisit them.

For me the course worked well, I managed to get a decent amount of work done despite the lack of pressure. I came in thinking I would never come to class, never do the work, and take the easy A but my expectations were very wrong. I definitely enjoyed it, and got a lot out of it that I didn't think I would have.

Overall I would say the style of the course went well. The style of class definitely has its upsides. I really enjoyed the freedom that the class gave, particularly that we had most of the assignments right from the start and we could complete them whenever we wanted. I never felt crunched or pressured by this class, and I always looked forward to going because of the relaxed atmosphere.

It could use improvement in a few areas though. The biggest problem I noticed was that there was no lecture. I think that class would benefit from say a ten minute lecture at the beginning of class for a quick explanation of important concepts or even just Q&A. I noticed some people in the beginning were having a lot of trouble getting started, and some more direct instruction would probably help them a lot. Also, I ran out of assignments shortly after spring break, and I would've liked it if there were more assignments ready to be done at the beginning. I wouldn't recommend any big sweeping changes to the class but a couple tweaks like those would go a long way to helping people that were struggling a bit or really far ahead. It might make the class more all-encompassing for people that had experience already and people who were brand new.

I'd like an A for the semester. I did almost all of the assignments that were posted successfully, and I got into some extra stuff towards the end of the semester. I did everything to the best of my ability particularly the R, Ruby, JavaScript, php, Go, and Python variable and operate assignments. I came to class every day excluding the odd day or two where I had to finish a lab report or when I had an appointment of some sort. Also, my GPA needs padding because of ISAT 253 and the sector classes I'm taking next semester, and a guaranteed A is definitely not something that I can turn down. Overall this class was a really good experience, and I'm glad I took it and kept an open mind during the whole thing even though I didn't think I'd like it much.

Patrick Francis  
ISAT 252  
Final Paper  
May 5, 2015

My semester in ISAT 252 was definitely an interesting semester. Coming into the class I was terrified of the expectations or the idea of programming in general. When I was coming into this class I expected it was going to be extremely hard and confusing for me as I had zero background with programming or coding before this class. I felt like this was going to be a very difficult class similar to what I expected from ISAT 253. However now looking back on the class I was clearly mistaken.

When coming into this class I didn't really set myself up for success in this class. I came into the semester with a negative attitude that it was going to be so difficult and that I was not going to do well. So with having that thought that I didn't set the goals too high for myself coming into this class. My main goals for the class were to show up every single class and to then keep an open mind as I was going through the semester. I also wanted to make sure that I didn't just keep my mind open to the thought of programming and coding but to actually learn something and to then retain it so I could use it in the future rather than just earning it for the semester and going from there. This was one of my goals simply because it is not a main focal point of what I am interested in with the ISAT program however I see the importance of it. As the semester progressed I really didn't change my goals for the class. I still wanted to keep my mind open to the thought of programming. I still didn't know too much about the subject and I was still unsure of the subject.

When looking back on the semester I don't feel like I have been too successful with this class. I feel like I have truly done my best in the course in trying everything and doing what I can but I feel like I have not been able to do a whole lot with programming and what I expected I would be able to do as I left this class. I feel like the most success I have had this semester was figuring out the hello world programs, usually on my own, and then trying to help the people around me. However these moments I had in this class were few and far between. I feel like this is more so a personal feeling rather than a group feeling of the class.

Now going off of the JMU mission statement of being educated and enlighten citizens. Now looking back after taking this class I feel like I am an educated citizen however I do not feel like I have gotten the most I possibly could have out of this class. I feel like I am an educated individual but I feel

like it has not changed based off of this class. When looking at the enlightened part of the statement I would have to say that I do feel more so enlightened that I did entering this class. I feel like I have had my eyes opened to what programing and coding actually is and how it is used in everyday life. I feel like Overall I am a better citizen and a better person to live in society after taking this class.

I feel like I did in fact take myself away from this class a lot in what I was doing. When I say this I mean I prevented myself from getting a lot done. This was due to me working two jobs as well as taking a full plate of credits. I feel like if I only had one job or I worked less I would be able to get more out of the class or I would have been able to get more done for the class. I feel like I held myself back a lot throughout the course of the semester.

When looking at the style of this course it was slightly unexpected. I knew the general flow of the class from talking to people who had previously taken the class but I felt like it would have been a little bit different for me. I felt like it was overall a good flow and a good set up but I feel like it should have had a more ridged structure in the beginning with you teaching more in the beginning to get the class going and then stepping back from there. I feel like overall it was a great set up for the flow of the class but there are always different thing to tweak.

When looking at the class I would highly recommend this class to anyone who needs to take ISAT 252 just solely based on you as a professor. I would say to keep the same set up of the class with working at your own pace but changing it to teach and be more hands on in the beginning of the course and then slowly drifting off to let people be on their own working.

When it comes to the grade of this class I would say it is complicated to say what I should have. I feel like I have not accomplished much with this class personally but I also feel like I have done my absolute best with the surrounding circumstances of my semester with my jobs and my other classes. With all of this being said and telling you that I have put in my full effort I feel like I could have, I feel like I deserve an A for the semester. I feel like I have worked diligently and hard for the entire semester doing the best I possibly could with the outside factors I was dealing with throughout the semester.

Christiana Katsoulos  
ISAT 252  
Dr. Morgan Benton  
May 5, 2015

### Reflective Essay on ISAT 252 Experience

The day I came into the ISAT program I was excited to have finally found the path for my future. I soon discovered I would have to take many courses to help me become knowledgeable on many different topics. I came into this class expecting it to be easy, which is what I was told by previous students. However, I am not one to slack off in classes even if they are easy. I always try my best to come to class and make an effort even if there isn't much to do. So when I came to class that first day and heard about the grading system, I'd say I was pretty happy. I only say that because I am one of those students that try's very hard in my classes to learn the material then to just take a test and get a bad grade because I can't remember everything on that day. I do push myself in school and make the best out of every situation I am in, but this class definitely helped me relax a bit. I could rest easy knowing that I could come to class and put in the work to write some simples codes and try to grasp an understanding of different programming languages, without being penalized on a test.

I set a few goals for myself throughout the course, to include writing code in different programming languages, as well as learning about how data types work, and what the command line can do. Over the course of the semester I was able to accomplish my goals and make new ones that pertained to the current exercises we were given. Though, my goals did not change drastically, since I was continuously learning about the languages I was using and trying to solve problems within the exercises we were given.

I believe I was successful in accomplishing my goals overall with minor failures over the course of the semester. I was able to complete hello-world, hello-variables, and operator exercises given for the programming languages php, javascript, ruby, r, python, go, and swift. I also submitted these codes using the command line and the course website. I was able to help other students in the class when they were unsure about what to do. One way I felt very successful is when I was able to problem solve on my own using the Internet and the command line. I was trying to work on the operators exercise for the programming language, go, when I kept receiving error messages in the command line. I managed to use the messages from the command line to figure out where I went wrong and what could possibly help me write my code better. In the end I was successful in writing a passing code for the operators test for the go programming language.

In some ways I do believe I failed to achieve my goals in this class. Since the beginning of class I was not able to work with java since the answers to the exercise was already downloaded. This limited me from working with the java programming language. I know I probably could have found a way to still work with it and pass the test, so I could unlock the other exercises, but I didn't do it. Instead I focused my energy on the other languages and their exercises. I know that I should have still taken the time to look into the java language online in order to understand how it works, since I did that for all of the other languages. I also could have learned more about the programming languages I worked with to include swift. I struggled with using the swift programming

language in the Xcode application on my Mac. The data types that the operators exercise used was fairly challenging for me to find online and understand. I think in the future I could have spent more time trying to locate accurate information and resources to help me as well as using you, my teacher, to help as well. I wish I did use online resources more, to help me when I was struggling with certain programming languages and exercises.

In regards to James Madison University's Mission Statement, I do feel more educated because isn't the point of coming to college to gain higher education? I feel by taking this course, even if it wasn't extremely difficult, I was able to learn something I didn't know anything about when I came to the first class. Even students who vaguely understand the concepts or understand them very well, they could learn something from the course too. Becoming educated is when you take the time to explore new ideas and teachings from the professors that teach these courses. I am more educated because I came to class and learned about programming languages, which was never a skill I had to begin with. I however, do not know how enlightened I am now because of this course. I believe JMU's context of enlightened means that, am I more aware about how things work or more conscientious about particular things. Regarding this interpretation of being enlightened, I do believe I took away some valuable lessons from the course as a whole. I am definitely more aware of different programming software's and how to navigate within my computer using the command line. I believe I am enlightened because I wanted to learn more and take something away from the experience, but some people do not have the same outlook and may not feel enlightened in the way I do.

However, there is an important aspect of JMU's Mission Statement that I would like to address. JMU's Mission Statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." The part I want to respond to is the idea that JMU wants us to lead meaningful and productive lives. I feel that I will go on to fulfill this statement, since I behave as a non-normal college student. What I mean by this is that most students do not lead productive lives here in college because their main purpose is to be social and go to parties, but I have not followed that path. I have strived to lead a meaningful life for a while now and I hope by being an ISAT major, my future career path will educate and enlighten me as well. So JMU's Mission Statement is a great goal for its students, but unfortunately not everyone reaches their expectations while attending classes here.

When I came to college I roughly understood the drinking culture that sadly defines most universities today. To some degree, I grew up with a different mind set and core values than most students here. I have chosen to focus on school as well as try to find down time that is adequate for me. I have joined a sorority and ISAT Honor society hoping to meet more people and create more outlets for social activities. I believe that I know myself pretty well and am lucky that I have been able to hold on to my morals and values pretty well too. I have definitely begun to understand the culture here and I seem to still have a good grasp on what I want out of my life. I have been able to clearly decide what I want to do with my time and money and keep my focus on school. I believe I am keeping my priorities in check as well as finding time to relax and be social, on my terms. Sometimes it is difficult to connect with people who have different values and outlooks on life, but I have been able to preserve and find they people who respect me and value what I value.

Attending ISAT classes has definitely inspired me to continue with the program and find a rewarding career. I have been able to find time to attend a panel of environmental professionals and go to the senior symposium which both helped me confirm my decision in becoming an ISAT major. Attending these events as well as talking with a few professors about my senior project, I am continuously gaining an appreciation for the major and fields that I could go into once I graduate.

This style of course work proved to be a bit of a challenge at times, but mostly educational and enlightening. I enjoyed the lack of tests and homework, but I do wish there was more structure to the course. I remember that we had the option to do the point system, but I chose to choose my own grade since I do not get that opportunity often, especially for an ISAT course. I agree that grades do not accurately represent what you learned, but since a lot of students don't even participate in class it might be helpful to implement some type of system to get those students to attend. I know from working with my sorority that it is hard to get people to show up and participate and food isn't a good enough incentive. I liked the idea of earning badges when we complete an exercise correctly, so maybe an alternative to the point system would be getting points for the badges we receive. Everyone likes being rewarded so incorporating the badges more would definitely get the ball rolling to get more students to participate. Also, time limits help get the assignments turned in, but many students procrastinate and turn in sloppy work. An alternative could be to have check points where students get to ask for help once a week and use online sources the rest of the time, then the assignment is due by a certain date and we would site the source we used and submit for a badge. At the end of the semester there could be this final essay saying what we thought about the course, but you as the instructor would have the overall say in determining the grade, on the basis of the work the student put in. I believe that if students don't show up for class and don't do the work, then they don't deserve an A. I try to come to class, participate, and work hard to get an A, but that's not always the case. There has to be some middle ground for both types of students to receive an accurate representation of what they got out of the course.

Everyone learns at different rates in different ways. We cannot all be expected to get A's in every class or learn something new in one class period. It's unfortunate how our grading system works to me since it isn't very fair, even though teachers have tried convincing us of its fairness from an early age. There is no fair and accurate measure of understanding of knowledge, since everyone comes from different places and has different life experiences. However, our educational system is at a loss to find an accurate and fair solution to the issue.

The class was overall interesting and a rewarding experience and I learned many new things from it. I would like you to report an A to the registrar for this course. I came to class regularly expect when I was not feeling well. Also, I believe that I worked hard to complete the exercises and tried to get help when I needed it.

Jonathan Pratt

5/5/15

ISAT 252

Benton

### Class Evaluation Essay

So overall I liked how your grading style is and I understand why you don't like grades. I agree that grades do not reflect a person's intelligence and that there is a problem in today's society on how people are considered smart. I like how you show us your philosophy and tell us your reasoning for it. The only problem with it for me is that I need structure in a class so that is why I don't think I got as much out of the class as I hoped. I know programming is all about problem solving and the best way to learn it is through trial and error on your own and with some guidance from peers, but I would have appreciated more structure in the class where I would be forced to learn. I guess the programming is not my thing because I was never really able to get the deep into it and get really excited about it. I liked how you wanted to incorporate all 8 of the main programs into the curriculum, but I think that may have been a little too much. I can see starting out the semester with an intro to all 8 programs but then go in depth about 2 or 3 based on surveys or a test that you would give online about how people feel about the program from the beginning. Or you could focus on the programming language that you think is the most important to learn in today's society.

This goes back to structure; I am a very organized person when it comes to studying or just doing work because that is how I learn. I know not everyone is like that but personally I would rather have a class that kills me with a lot of work and I work very

hard to get a good grade in it. This forces me to actually learn the information and it sticks with me for years. The more challenging the class the more I learn and the more I feel accomplished about myself because by the end of it I appreciate the information I learned more.

I talked to other students who are taking 252 and they say they are struggling so hard with the information but I don't feel that pressure because it is a choose your own grade system. I would have rather come into the semester knowing that I would have a grade based on points because that would have made me try harder in the class and caused me to become more interested in it. I love problem solving that is why I am an ISAT major and that is why I want to go into the field of Engineering because that's all it is. It is trying to figure out how to make things better and make things that are going to fix problems. Like I said before I would like to have gone more in depth to one program where I have a lot of background in it for future jobs. It would be great to put on a resume that I have an intense background in Python JavaScript. I am not blaming this on you but myself for not taking the initiative, but I need that structure to take the initiative at the start.

I did like how some days you would explain the meaning of different languages and how computers came about but on days where we would just sit around for weeks on end it made lose interest in the class because I got bored of trying to figure out the languages. I think that you should have specific activities for each class with some basic structure so everyone is on the same page because I would ask people in our class what they were working on and they would not even start on some of the programs I am working on. If everyone is working together I believe that the class does better on

learning the information because we can learn off each other. If I have learned one thing from ISAT this semester is that your classmates are very important to your learning. They are not just there to learn but to help guide and teach you through the process. That is why I think it is important to have everyone working on the same thing at the same time. For example, Dr. Henriksen has pushed me so hard this semester and has taught me so much each class that when I help other students learn the information it helps me learn the information because they teach me just as much as I teach them just from explaining and working things out with them.

I think this class has the potential to be a lot of fun with your grading style if there was more structure to the class and less broadness to what you could do. I like you as a person and I like your ideas that you emphasize on society and how these changes can really help us individually. I enjoyed all the beginning of class little videos or inspiration speeches that showed us a lot more than programming. Even the children's video half way through the semester was interesting and fun and I like how you show us things that you think are important or amusing. I overall enjoyed this experience because it taught me what I really want out of a class and taught me my best teaching style. Thank you for helping me learn that because that will stay with me through college and the rest of my life.

A

Abraham Yoslov

May 5<sup>th</sup>, 2015

ISAT 252 Benton

Coming into ISAT 252 I expected to obtain a clear understanding of basic programming in python, this was mainly due to the course description. Being an engineering major who is trying to obtain a robotics minor I wanted to be able to say in an interview that I understand basic programming, and if it is needed in a job that I may not know all the tools needed but I would know enough to learn and be successful. It began with me emailing you to obtain a spot into this class because it was the only time slot that would fit into my schedule. I expected to not get into the class but when I was granted an override I was very excited to learn programming and obtain another minor in the future.

The goals I set for myself included what is stated above, I wanted to learn and become proficient in only the python language, and be able to understand computer programming on a basic beginner's level. I also wanted to be proficient enough in python to be able to code a robot, although I don't know the details of the how to code a robot I want to be able to understand it for the next class for my robotics minor.

My goals went from wanting to just be proficient in python to understanding the differences between the eight studied languages explored throughout the course of this class. I first focused on python and PHP as we were instructed to at the beginning of the course. Then with the help of my roommate who is a computer science major he helped me to explore the different applications of the various languages, He taught me about his networking class and how now he can hack into people's routers to obtain the wife password, and how each language was designed to be used for a specific program but also how each language can be used to complete any program but it may be more difficult. This all strengthened my interest in programming which lead me to buy the book that was instructed for this course. My final goal of this class was to begin reading the python book I bought for this class so that I can be better be proficient in a single language. This is more what I wanted to achieve throughout the semester but never could because of the focus on the eight various languages.

I believe I was successful in this course because I completed each of the hello-world challenges and some of the hello-variables challenges. Also when I was stuck I would have my roommate explain to me how to find the answers I needed. I think the most valuable asset to my learning in this class was my peers, you said this at the beginning of the course and with the help of my roommate and good friend of mine I was able to find a fascination in programming which I feel many students would not have gotten with just this class in an instructional setting. I also began reading a book on python where I began understanding what string variables were and how you need different variables for trying to say different things (i.e. numbers words etc.).

I think I failed to achieve proficiency of just the python language but I feel that this was sacrificed for knowing more in other languages. I feel like I would have rather learned more in just one language because of the applications for future references but knowing more languages could also prove to be useful if one can understand the pros and cons of each

language. I have recently decided to buy the book that was instructed for other sections of this class and I have read the first few chapters and I hope to read more of it this summer to allow me a better knowledge of python, I know I will need this in my phys 398 class (Robotics) where I will need to construct and code a robot.

I one hundred percent feel I have learned valuable information in this class, I don't believe this knowledge will help me change lives but using this knowledge I can learn more about these topics with the basic understanding I have and feel. I think this class has taught me much more than any gen ed course has ever. This class has taught me just a few of the many applications that programming offers. In this day in age everything is in need of programming and computer science will only grow in society throughout the future. Having the skills to understand programs and be able to build programs will be a priceless skill that not many people have.

I feel that no attendance policy both helped and hurt me throughout the semester I benefitted from it with my other classes being able to work on other material and study for test prior to but it hurt me because I feel I became ok with just doing work for this class outside of class when I should have used my peers more than I did. I was fortunate enough to have a roommate who is a computer science major and could help me complete work at home when I had a question. I made it my goal to come to class the majority of the time and I feel that I was successful in doing this, I found this difficult because I didn't really have any peers in the class that I was friends with and could help me but I had my roommate who would help me at our house.

I liked the style of course but I do wish it was a little bit more structured I feel that for the future you should have the class focus on one language a week ad on Friday as a class we could discuss how people configured the hello world/ hello variable challenges so that each student even if they were struggling could get the answers so that next time they can be better. I feel like this would keep all the students more engaged and more likely to come to class. My personal notices were that people would not know how to do something and wouldn't have any friends they could ask for help and so they would stop coming to class for more of a fear of feeling dumb rather than asking someone, this happened with me for a period of a week and then I asked my roommate to help me and I realized how much more there was to programming than just a simple hello- variables challenge, and this interested me with the subject much more.

I believe I should receive an A- I do feel that I could have been more productive in this class with the material we were supposed to learn but I also became interested in computer science and as stated above I would use my roommate to learn answers to questions we weren't supposed to investigate. (These included questions regarding his networking class and the class he had to program an app for) This class was very enjoyable and I am grateful that I got to learn programming in a class that was very laid back instead of being a stressful class where I learn information and throw it out of my brain right after the test is over. I feel that an A- is a fair grade for the work I have put into this course with the time I spent in and out of class investigating and learning the tricks and trades of the computer science world.

Breanna Cordova  
4/5/15  
ISAT 252 Self Analysis

My expectations were set high for this class, I came in open minded and wanting to learn more about the IKM sector. I was excited because you sent out that syllabus video and you were so different than any other teacher I've had; you portrayed the message of actually trying to get to know us and that the class would be very self reflective. I have never taken a programming class before and heard that there is a surplus of jobs in this area and feel that there will always be because our world is so dependent on technology. My neighbor works as a software engineer and talked to me this past summer about his job and I thought it sounded interesting.

However, this semester I learned that programming is not for everyone. I do not think I possess the patience required to keep trying to figure out a code. It was frustrating and not something I enjoyed doing. It seems really methodical and repetitive. Programming is almost like its own world containing its own lingo. Getting used to lingo in another subject can take a long time and I found myself doing a lot of research to understand what programming lingo was actually talking about. In class, since I have a mac and most of my friends had PCs I found it difficult to work with them.

I feel like I am a very structured person but this semester definitely taught me that I am only productive when I have deadlines and grade expectations to make day by day. This made me reflect on what my education has really taught me; I think it's sad that I rely on those deadlines so much. I realized that maybe it was the disinterest in programming that made me not want to work as hard. This made me concerned for how my work ethic will be in the real world but I will be more inclined in the real world because I will hopefully enjoy what I am doing. However, I think the way the course was set up, such as getting to work with peers first when having a question and the idea of self learning, is pertinent in the real world. We will not have professors or teachers to rely on for the answers outside of our educational career. Therefore, it is important to have experience with this way of learning because it is most applicable to real life job scenarios. Our education system seems to have some flaws because I feel like tests don't accurately display your knowledge, it is impossible for people to learn and remember every application learned in one field. I have always hated tests and done terribly on them but I can excel in labs because it hands on real life experiences. To be honest, in the real world if you forget a concept you can just simply look things up to find answers or ask a co-worker. It's just like how math teachers ban the use of calculators. In the real world we will have calculators. The goal of education should be to prepare students for the real world and I feel like it does not.

Since this is the introduction course to a sector in ISAT some people, like me, knew absolutely nothing in this field and yet you didn't make us delve in to it by rigorously creating deadlines and numerous practices and assignments to turn in every class. Some of us would struggle with this because we would realize programing is not the subject for us but be forced to complete assignments and probably get by with a low grade. Why give someone a low grade that just took the

class to see if they were interested in but realized it wasn't their passion? There shouldn't be a penalty for someone who does not have an interest in an introduction course. Interest, in a subject guides motivation and creativity and this leads people to success. I feel that education should inspire people to want to learn what they are passionate about. Introduction classes should not be designed to force people to learn complex and upper level applications of the subject. They should instead serve as an overall consensus of the field and focus on attributing information towards real life problems. If introduction courses for any subject were taught like yours I feel like there would be a different mentality for learning. People's sparked interest from an introduction course should lead them into taking the available upper level courses. This process would help people differentiate what they like and don't like in a more efficient way.

I thought that in college I would be able to pick and choose certain subjects to see if I had an interest in. Some of the classes I have taken here at JMU have helped me make my decisions on what I want to do for a career. I transferred to ISAT last semester from biology. I've always been interested in science and I liked that ISAT had introduction classes and different sectors/fields to essentially try and choose from. When I was biology major, I took introduction classes, participated in a research group and also joined the biology learning community. Through all these options I found that I did not like what I was doing. The introduction classes led me to think I couldn't attain the amount of workload because they expected you to know things right off the bat. After this experience I found the importance of trying to like what I do and I did not like what biology had to offer and from what I can determine right now I do not think programming is for me. Introduction courses really are the classes that people, or at least, I have based my interests of the subject on. Therefore it is important for them not to be so in depth and overwhelming causing people to shy away from them.

In the beginning of the semester I sat aside about five hours of the week to work on trying to figure out the programs. I would read help sites and try to get help from friends in the class. These goals worked okay for the beginning of the semester but as the semester progressed. I feel like I was successful in utilizing different techniques in trying to teach myself, I asked peers, even my computer science friend, for help and used help sites to try and learn the information. My goal to utilize five hours a week outside of class probably worked the first couple of weeks in the semester and then I lost my structure. I slowly lost patience and interest and spent less time outside of class. I feel like I failed to meet my five hours a week goal because as the semester went on I started to focus my time more on my ISAT 212 class. I bombed the first test and the labs were rigorous so I psyched myself out and devoted more time, almost all my studying time on this class. Energy was one of my top sectors within ISAT along with environment. I had the mentality of keeping an open mind for all the other introduction sector courses but it was hard to balance between these new subjects.

To help solve future failures I will spend more time trying to balance course work better by maybe reviewing notes for a more rigorous class every night to keep the information fresh and attainable. This would help me make more time to spend

on other classes. I also could work on my patience and keep trying when I fail at something and try not to get so dissuaded.

I feel enlightened from this course because I understand the world of programming better. I feel more informed as to what programming is and what it entails. By lots of trial and error of programs, I have a general consensus of the terminology and concept as to how it works. This class has made me appreciate technology more.

Technology is everywhere and interrelated into almost about everything people do now. I think our generation takes it for granted because we've grown up with it and have not really seen the world without it. I think it is important for people to understand the work that goes behind technology. Anything from online shopping, to using applications on phones, or using email is program based. I now have a grown respect and appreciation towards the people who help make these every day features possible. I also have an appreciation towards the time and work that goes in to create these programs.

I have somewhat of a better grasp of the future from my activities this semester. I know I do not want to sector in IKM or Telecom I think I would rather lean towards energy, environment, biotech, and engineering and manufacturing. This style course at first made me uncomfortable. It was unlike any class I've taken but I think the self-learning and interaction with my peers added value to the experience. I know you probably cannot control what time your sections are but a later time instead of 9:05 would have been beneficial. No one seemed to want to talk or do anything this early in the morning. I don't think I gained the necessary knowledge to further want to progress in this sector because of my lack of interest. However, I feel that I have been enlightened in the area of programming and have been more informed of what this subject entails, including real life uses. Because of this I would greatly appreciate receiving an A in this course.

Name: Martin Mayiani

Instructor: Dr. Morgan

Class: 252

5/5/15

First off it has been a pleasure being in your class this semester. I really enjoyed being in your class and I feel like that made the semester go by so fast. The concern you have for each student in your class has no measure. You also provided a very relaxed and motivating learning atmosphere. I have been able to meet new friends and learned a lot from them.

I began this class with high expectations and a lot of motivation to learn. For the first half of the semester, I met all the objectives that I did set for every particular week. After the first half of the semester I was a little bit overwhelmed. Exams and assignments from my other classes began taking too much of my time and I had difficulties in creating time for this class other than the class sessions. This seemed to be a challenge that every student in this class was struggling with. This further made it harder for us to learn from each other. Also due to the fact that everyone is working at their own pace made it even harder since we are all not on the same page. I think it might be helpful to have everyone was on the same page. For instance I went to a couple of people trying to get help for an assignment that they have completed already and many of them could not remember what they did. The same thing happened to me too, someone comes for help for a language that I did two weeks ago and I can't remember exactly what I did.

I also think that you as our instructor expected us to learn a lot from each other and maybe only ask questions that we couldn't get help from the rest of the class. This strategy was very effective at the beginning of the semester when everyone was on the same page. When our working pace began to differ it became difficult to get help from each other. By this I mean it is easy to get help in python when everyone is working on python at the same time compared to when everyone is doing a different language.

I happened to be in Dr. Radziwill's class that has a similar teaching strategy that I thought was effective. I think the only thing that made her class different from this class is that she assigns assignments with a time frame. She would assign a project say for instance, 'Hello world in R' and takes like a maximum of one and a half weeks to check everyone off the assignment and give the points for those who complete it within that particular time window. So for that one and half weeks everyone is working on the same assignment and that made it easy for us students to help each other. It was also easy for her to clarify something which was relevant to the whole class since everyone is doing the same thing. That way it was easy to get help from each other since everyone is working on the same assignment.

My most favorite part of the class is that the instructor was down to the students' level. You interacted with thus in a way that would encourage us to ask and questions with no fear at all. I believe this is very important in learning. There was too much freedom in this class which

fostered a conducive learning environment. The trial and error method which is a big part of this class is very important in enhancing learning but I think it will be more effective with close instructor's guidance. I also think it was very good that the instructor knew everyone by name and even more than that within a very short period of time.

Tommy Shaffer

ISAT 131

5/3/15

### Reflection

In coming into this class, I honestly didn't know what to expect. The first day of class someone told me about the choose your own grade route vs the badge route. Right away, my first thought was I am clearly going to take the choose your own grade route due to all the different things I have to deal with. After the first few classes setting everything up with command prompt, I was starting to change my mind because I found it pretty interesting the way the learning my computer system worked (setting the system variables and what not) and I thought the badge route was interesting as well. So, coming into this class I expected to learn a lot about a few languages through the badges, which I first thought were completely different assignments.

My goal at first was to learn php and was hoping to be able to do something cool through a browser with the knowledge I have gained. However, I completed the php hello-world, and hello-variables pretty quickly and had to move on to a different language. After doing the other languages, I got a knack for Python and started to like that more than php. For my ISAT 306 class with El-tawab, many were coding using python and he convinced me of what a powerful language it was. So, my goal evolved from just getting all the hello-variables and hello-worlds done at the time to learning python that in detail instead of just the basics in many different languages.

I would say I was successful in becoming very familiar with Python. After doing the operate for python, there was a week when I honestly didn't do anything. I started the php operate but did not continue doing so. So, in class one day my friend showed me all the different labs they were doing in their class with python, and decided I wanted to do that as well. So, after talking to Teate, he recommended me doing code academy. For a good while I was working on the python code academy, and got around 50% of the way done. At that point, although I did not remember everything it taught me, but I learned more than enough to begin working on the labs. I thought it was very cool having to solve different problems for different labs and working to solve a goal of a real-like situation rather than trying to figure out why the error doesn't work for the testing code. I ended up liking the labs a lot more than all the hello-worlds, hello-variables- etc... Without help, I ended up doing 5 of the labs which took a lot of time along with code academy.

Honestly, I feel like I failed to achieve my goals in that I didn't learn as much as I wanted to in Python. By the end of the year I really wanted to be more fluent in writing code and be able to do something useful with what I know. It was disappointing because there were many times where I just chose to do something more important than coding because of a grade and a due date. One thing I learned from my failures is to not procrastinate. Towards the end of the year when some of the labs caught my interest a lot, I started doing the labs even when I had more important tasks due just because I simply enjoyed trying to solve a problem and figure it out. However, during the beginning of the year the hello-worlds and hello-variables didn't take me much time at all( for the ones I had enough interest in doing) and so I would just stop working on programming all together because I had other things due. If I was more motivated mid semester I probably wouldn't be saying I failed to achieve my goal right now. In addressing these failures, I am going to try finish all the labs over the summer come into next year knowing more.

In response to JMU's mission statement, to produce "educated and enlightened citizens who lead meaningful and productive lives," I feel that I definitely feel more educated and enlightened. The more I've learned about programming, the more power I see in programming. I feel more educated not only in that I know more now than I did before, but in that I am less reliant on others to get things done- my motivation can only come from me and not anyone else.

I would say my activities did not help me much in determining what I want to do in the future. I know that I want to do something network related in the near future so having some coding knowledge does help. But, my activities this year just don't really relate to networking in any manner. My dilemma involves my activities dealing with health and biology. Having Lyme disease, by nature I am motivated to learn more and get rid of it and all that. So I want to sector in biotechnology as well as networking, but I feel like most of this semester(year I guess) I end up lacking motivation because I felt bad, then end up finding motivation later and just start researching Lyme disease related things instead of focusing on what I am most likely going to do when I graduate- Telecom concentration.

Honestly this style did not work as well as I liked. I think that as a beginner programmer like most people in the class, the style of learn it yourself type of thing doesn't work as well. If I already had a solid background in programming I think this class would be a lot better, that way you wouldn't have to rely on the teacher as much and troubleshooting would be a normal thing- if you can't figure it out that is where the teacher comes in. I just wasn't very motivated to do hello-world and hello-variables in 5 different languages. However, as a beginner, I think the class should push you enough to get a taste of everything. For example, I would have loved if we had lectures where you showed us some tips and tricks once we knew enough to understand everything that was going on. Also, I would recommend having some labs as well because that is what really got me interested in coding- I wasn't just stuck at an error message, it would be something like I got the wrong number for the output, which was more intuitive and encouraging.

I would like an A for this class. One because, I don't care too much about my grades rather than learning the stuff that intrigues and interest me, so an A would boost my gpa. But two, because I truly do think I worked enough to get an A for the class. I did most all of the hello-worlds and hello-variables with the exception of two languages that I did not want to touch on, and I did the operate for php and python. I also did code academy for a solid two and a half weeks, which took a long time just to get to 50%. I also did labs for the remaining of the year, and am still doing them. As I plan to complete all the labs this summer as well, I think an A wouldn't be out of reach.

- What were your expectations coming into this class?
  - The class was not what I expected. I expected it to be like any other class where we came in, sat down, and took notes. But I was thoroughly surprised with how the class was run. I was really happy that it was a go at your own pace and learn in your own way. It was also one of the classes that I worked more with other people than in other classes.
- What learning goals did you set for yourself?
  - I pretty much just set myself up to learn programming. One thing I did not realize was how complicated it would really be. I have always have had trouble with learning new languages like Spanish. And it kind of transferred over to learning programming. Once I realized how hard it was I just expected myself to learn the bare basics, which I did. I made myself problem solve and be more persistent than I usually would in other classes.
- How did your goals evolve over the course of the semester?
  - I actually ended up setting the bar lower later on than I did coming it. I thought that it would have been very easy to get a hang of it. But eventually I found out how difficult it will be and made myself focus more on learning to program. So to help with that I would set myself smaller goals every week that are more achievable.
- In what ways did you feel you were successful? Please refer to specific, concrete artifacts that would serve as evidence of your successes.
  - I felt success every time I completed a new program, even the simple ones. It was very satisfying finally getting the code to work after trying to figure it out for a week. My greatest achievement was figuring out how to do Hello World! And hello variables in python. For some reason I had the hardest time trying to figure out the python language. I had a huge feeling of success after figuring out that I was just missing a ":" and finally getting the program to work.
- In what areas do you feel you failed to achieve your goals?
  - I did not complete all of the "operate" systems. I think I failed because I had to complete it in so many different languages. I have always had trouble learning new languages in anything so that's why I believe I failed. I think if we focused more on a couple or even just one programing language I would have been able to complete a lot more.
- Please reflect on what you think you've learned from your failures, and what, if any, plans you have to address those issues in the future.
  - I learned that I need to be a lot more patient. Sometimes it takes more than a couple minutes to figure out what is not working in a program. I'm very used to just doing work as quick as possible and it work right away. However with this it usually took 50 failures before I could figure out what is wrong. I think this helped me learn to take more time on all my work and definitely over it more often and more in depth.

- JMU's Mission Statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." Do you feel more educated? More enlightened? Less so?
  - I feel like I am more educated. I am more educated in both programming and problem solving. This class helped to look over what I am doing more. It also taught me to look more in depth with things and not just skim over them without thought. I think it also helped me with my google skills and decoding skills. It helped me pick easier to understand websites and also helped me figure out what the website was telling to use as code.
- How have your activities this semester contributed or detracted from your knowing yourself better and having a better grasp on what you want to do in the near or distant future?
  - It really helped me show how impatient I am. I would get very annoyed if I could not figure out how to do a problem right away and would give up on it immediately. All the classes I took especially this and energy helped me to calm down and take more time on work. It has definitely helped be move towards to who I wanted to be. The classes this semester also definitely gave me an idea of what I wanted to do in the future. After the classes I took I know I do not want do anything in environment or biotech because they seem very boring and I am just not interested in them. I want to focus on network security or energy. Those two classes challenged me the most but I also enjoyed them the most. However I will always have my fallback of Caddie Master at the country club I work at.
- How did this style of course work for you?
  - It worked okay for me. It definitely helped me improve my skills on figuring stuff out myself. I usually would give up easy and just look for the answer online but this class taught me to be more patient. However I still wish there was more actual lectures to help us when we were possibly stuck on something. I believe even just a small hint in the right direction.
- If you were to take it again what would you recommend that I do it the same or differently?
  - I think you should have more lectures. I definitely think that lectures can definitely help students that are stuck on something instead of them just figuring out themselves. I think adding a lecture on simple commands in each language would definitely help out a lot.
- What grade would you like for me to report to the registrar for you, and why? As per our agreement, please remember that you can ask me to report any grade that you would like and I will honor that request.
  - I think I deserve an A. I came to class every day and completed the tasks. I did what was given to us and believe this is the grade I deserve.

Chris Butters

Final Paper

ISAT 252

Dr. Morgan Benton

Going into this class, I didn't know what really to expect. I had some history with computers, but never any experience with programming. The world of computers seemed like it was meant for computer geeks and brain whizzes. My experience did not go much far past that of Microsoft word and excel. I took a Microsoft access class freshmen year as a business major, but that was very program specific. There were certain places I typed numbers and clicked buttons to make things happen, but not anything that required coding. The world of ope was scary especially with my virgin experience. How was I to learn all these languages and write letters that would have corresponding actions? As time progressed, my understanding and respect for coding was garnered.

As I entered the class I set several goals for myself. I had never been placed in a situation where I was expected to do everything on my own and choose my grade. I was getting everything out of the class that I wanted. I should sit there and do nothing, or make the best out of the money that my parents were investing in my future. It was the ultimate test of self-control, especially at 9 am Monday Wednesday and Friday. I began to garner a mission of creating a program and developing a website for my volunteer fire department. I was going to work on the initial portion of the programming, however I wante to devote most of my time to the creation of the website.

As the weather got cold and the winter weather caused me to want to stay in my nice dorm room, I felt a struggle to stay on track. I was swamped with other classes and was limited in my ability to signifucantly contribute to my project. I was slacking, and needed to get back on track. With a little bit of motivation and warm weather, I began to pick up pace and was able to start the motions of finalizing the website. Working with an it professional who is a volunteer, I was able to pick up the pace and get the project rolling.

I felt that my goals were very successful. Even with the hiccups, I was able to overcome adversity and complete my goal of creating a website. Using wordpress and interacting with go daddy, myself and my counterpart were able to develop a website into something very applicable to not only my future in technology, by the fire department. After all, the overall benefit lays in the community.

Although I do consider my semester a success in the long run, I had short term failures that inhibited my progress. I was very likely to skip class in several instances. I had a lot going on and was not able to fulfill all of my desired tasks. I let myself down in these times. I also had many issues with embracing technology. I failed to delve deeper into the technology. I should have programmed more. This caused me to get less out of the class than I would have liked, however the outcome I garnered was more significant than learning code. I do not want to learn code for my job as it is not in line of the work I want to do. However the being later

absent could pose negative externalities. I do not want to become that of a slacker and be known as such, I hold myself to a higher standard, especially in the face of adversity.

I do feel more educated, not as much in a sense of the technology spectrum, but in the basic-essence of self-control. If you want to have something, you have to work for it. There is no free bies. You get what you put into it. Slacking yields no results, and personal appreciation is more important than a grade on paper. There is nothing to gain from an empty grade. Why are we here anyway!?

I know what I want to do through other classes, and that is not computer technology, however computer knowledge is imperative to success in the 21st century. I hope I can use the information garnered to future my career as a United States coastguardsman.

I did not prefer this style of course work. I embrace structure and direct instruction. I believe it is more along the lines of the college experience. I learn better with direct teaching, as opposed to teaching myself.

Although some people can learn via indirect teaching, with little structure, I believe the vast majority of students would learn better and have a better appreciation of the class with a more point based grading system.

I Deserve an A because I was able to not only learn computing skills, but valuable life skills that I can apply to provide to the benefit of myself and society I interact with.

Ana Fitzpatrick  
May 4, 2015  
ISAT 253 Essay

Coming into this class I was really eager to finally use technology honestly. So far, in my past two years of ISAT, I have only experienced the science side of “integrated science and technology” which I have come to love truthfully. Thinking back now, I did not have many expectations coming into 252 besides the hope for learning how programming works and understand what it means to program. I wanted to learn how to really use my computer and understand all the possibilities there are. I was really excited to get to know this professor that everyone recommended to me. It was all just good vibes coming into this class. This calmness lasted throughout this semester in this class in every aspect. A huge roadblock was that I was not used to the early class time. I am a huge over-sleeper and I was anxious to have to wake up what I call early in my world. Nonetheless, I figured I would try it out and do my best.

I set my goals to be vague so I wouldn’t let myself down and I was also keeping in mind that I was taking physics this semester which I thought was going to kill me. I had been terrified of this dreaded physics class since starting ISAT. Ever since practically failing calculus my first year I have had that huge fear of any “difficult” class. Thankfully it turned out to not be as impossible as people made it out to be... Anyways, as for 252 I just wanted to learn how a program is created or altered so I guess that was my goal; to learn. Over the semester, my goals stayed standard but I would specify them with each passing week. I would focus on a single program or exercise. I feel like for me I had trouble understanding how exactly each exercise was supposed to look like or work. Many students were kept telling me to Google it and say that they had found information online that helped, yet every time I did it just confused me a lot more. So I went about it the old fashion way, trial and error. I would just alter each program script and test it until I got it accepted. This was a change for me because I am so used to having a textbook or manual that I can reference and in a way rely on. It was good for me to not have the same set up in this class because I got to comfortable using a textbook. This course structure allowed for me to use different methods of understanding. This varied from working with classmates to looking up YouTube videos. It did take awhile to adjust to this but looking back I enjoyed it because I was able to do exercises on my own time. They way the entire system was set up for exorcism was interesting and I liked how I could truly do all my work on the laptop electronically without a time constraint. This class reminded me of my ISAT 251 statistics class that I took last semester. I think this structure of class helps with my health and doesn’t make me feel stressed or worried about what grades I get or how to get more points on something. It’s nice to actually have the reins on my assignments and do what I can do when I need to.

A big worry of mine throughout this year is the thought that I am not “cut out” for ISAT. I sometimes question if I am going to like live up to the ISAT ways and whether or not I will be able to get a job. I know that I enjoy the classes and program but I guess I have just come to question myself a ton. I do wish that ISAT had a better freshman transition period into the program because when thinking of sectors I realize that I don’t really know much about each and every one. It would

have been beneficial to learn more about the core classes and what each entails. As of right now I chose to concentrate in Biotechnology, IKM and Telecom, which I am excited for.

I believe that this semester was a very tense one filled with many lessons learned from failures. I realized that no I probably should not take morning classes and that yes I can conquer those "difficult" classes everyone worries me about. I also realized that I need to be more involved within my major. This meaning that I want to get to know other students and hear about their projects and also get to know the other concentrations better and more thoroughly. This was a personal realization and I hope to do this next year. Another failure was that I didn't set semester goals so I feel like I didn't have something to reach for which would have helped me stay on task. I guess its better to find out sooner than later for all these things. I do think I did my best trying to balance all my classes and my involvement on campus well. This past semester I was involved in SGA event planning which I joined freshman year as well as my sorority Tri Delta which I joined this past fall semester. A huge time commitment this semester was planning the Big Event for the school. It was something that required a lot of time and attention and coordination but all in all it went smoothly after all the hard work, which I am proud of. Joining a sorority is a lot of time commitment in itself which I learned early on as a new member. This organization really helped me stay sane throughout this bumpy year. I think that by being in this organization, I have learned to be myself and not worry about the minuscule and unimportant things that I used to worry and be so nervous about. Thankfully both organizations push for studying and doing well in school as well as offer many resources to help me academically.

My education is a priority to me and I think that yes, I do feel more educated since coming to James Madison. I have been tested, not physically, but mentally and I like the challenge. I have come to also enjoy the general education courses that most complain over. To me, it's interesting to learn about other topics out side of ISAT related courses. This semester I took GART 200, and I loved it. I really enjoyed learning about the art pieces and seeing the different forms of art that have evolved over the years. This was my last semester of general education classes though since I have completed the requirement but I am considering taking more if I have the space and time in the future semesters to come. ISAT does a great job of allowing choice within the program and flexibility, which has been a god send in regards to scheduling and planning out the four years. I like the un-rigidness that surrounds ISAT and helps the major flourish.

I would recommend this class to many students in the future solely for the experience. This class was very transparent and open which I rarely get in college classes. It was a class that allowed for a person to be a person not just a student or number within a room. I got motivated for my senior capstone project after you spoke to the class about them and showed us one that you had been helping with. Your push for us to think about it and to find what I would want to do did help me figure out a potential project. This helped me to realize all that I can do within ISAT and I think it helped me reaffirm my decision to chose ISAT as my major.

If I were to retake it again I would only recommend maybe a written textbook of some sort or a reference book. This was my big complication with the

setup of the class but it was not a do or die type of problem. I think it would just be useful for students who have never worked with computers in the way this class requires one to. It would just be an easy tool to use throughout the exercises and in regards to using terminal. In contrast, not having a written manual forced me to not be quiet in class and ask questions to peers and get to know others in the same program of ISAT which, thinking back now, was beneficial and enjoyable.

I do want to thank you, Professor Benton, for offering this class for students as well as understanding students and being able to connect with us. It was nice to be able to have open dialogue in a class setting. I know I wasn't a student with great attendance but many times my over consuming health made it difficult; not an excuse. But I truthfully can say I enjoyed this class immensely and working with you as a professor. I am asking for an A to be reported to the registrar. I think that when I did work I worked hard and overcame many obstacles that this semester threw at me. I participated in group discussions when held, I did the corrections on the exercises I submitted that needed correcting and attended the classes more than many. I think that I work hard and often my hard work is never reflected in my grades mostly because I have awful texting anxiety, which just does not help to reflect to professors that I know the material or study. I think it would be really awesome to see an A on my "report card" for this semester as well.

Nick Gentile  
Professor Benton  
ISAT 252  
4 May 2015

Coming into this class I really did not know what to expect. I had never taken any kind of programming course before so I didn't have that good of an idea of what we might be doing in class. I figured that we would be writing code but honestly I did not even know what that meant at the time. I guess I just expected to learn about various aspects of the computer and how they went in to making program run and having code work. I also expected to have to do a fair amount of work outside of class which ended up being the case. I quickly found out that a programming class is not the type of thing that you can slack off in or you will fall behind and have a hard time catching up.

After I became familiar with the basic concepts of the class and saw how things were going to be run I made it my first goal to become more familiar with the terms associated with programming. All the words like command interface and path variable I recognized but didn't always know what they meant. I took time out of most nights doing homework to just make it a point to learn a few new terms. Another learning goal that I had for myself was to start getting better at navigating all of the directories. I often early on found myself getting lost sometimes as to where things were. I wanted to improve my navigation skills in order to prevent that from happening. One more learning goal that I had was to improve my understanding of the path variable. At first I didn't quite get when, or why for that matter, you had to adjust the path. I wanted to get better at correctly updating the path when I had to.

Over the course of the semester, my goals began to evolve as I got better at programming and I learned more about the concepts. My goals went from being very basic as I discussed before (just learning the basic commands and terms) to becoming more advanced (completing the hello world in various languages as well as the hello variables in various languages). Once I came up with programs that worked I really focused on understanding why they worked. This proved harder for me, but I think that I made some solid progress over the course of the semester. My goals also evolved in the sense that they got more specific as the year went on. By that I mean that I went from just making very general goals like (learning new commands and improving my style) to goals that were much more specific like (learning how to create if then statements and using variables to accomplish what I wanted). My goals also evolved in the sense that they became more measurable. It is hard to determine if I accomplished my goal when I say that my goal was to learn new commands. My goals developed into much more measureable ones like (complete hello world in ruby, complete hello variables in java, etc.).

I feel that I was successful in that I had a lot of program completed by the end of the semester. I had every single hello world and hello variable program done from all the languages available to windows. All of these programs were run successfully and then were submitted to exorcism. Another way that I felt that I was successful this semester was in learning programming terminology. I made it a point early on to diversify my vocabulary in this respect and I had a whole list of terms that I had written down in my notes.

I feel that there were a few areas in which I failed to achieve my goals. One area in particular was being able to help others around me. Almost every week on my checklist I would write help other around me as a goal, however I did not end up being very effective in this regard. More often than not I was consulting people around me for help with things I did not understand. Then, when people would ask me for help I more often than not was not able to help. It wasn't that I didn't understand what people were asking me, I just did not know the solution to their problems. Another area where I feel like I failed to achieve my goal was devoting enough time outside of class to improving myself. In all honesty I had a very difficult semester as I was taking 212 (terribly difficult energy class with Dr. Altaii) and spent a lot of my time devoted to that class. It said on the checklists that 6-7 hours outside of class was a reasonable amount of time to be spent outside of class. I often found myself shooting for around 4-5 but always seemed to come up short on that number of hours. Usually, I would only spend two to three hours outside of class each week which was a little bit less time than I should have been spending.

My failures actually taught me a lot this semester. The main thing that they made me realize is that I need to devote more of my time to things I may not be understanding right away. I think that at the end of the day, the reason why I was not understanding some things is because I still could have put in more time than I already was. As the old saying goes, "practice makes perfect." The more time you put into something the more likely you are to be successful at whatever it is that you are doing. Another thing that I learned from my failures is that you can't always rely on other people around you for help. Sometimes you just have to dig deep and try to figure things out on your own. When you have to really think to figure something out you usually retain that information much better than if you don't have to think that hard. I think in the future, in order to learn from my mistakes, I just need to put in more time and effort to accomplish my goals. The more I work and the harder I work will result in the results that I am looking for.

I think JMU's mission statement definitely epitomizes what happened to me this semester. I can honestly say that I do feel more enlightened than when I first entered the class. Like I said before, I had never taken a programming class before and I really am not that knowledgeable of computer to begin with. Based off of the successes that I had in writing programs and producing visible results, I would definitely say that I learned a lot over the course of the semester. Beyond actually understanding how to write code, I also came to be enlightened in the fact that I saw how important programing is to everyday life. The internet is such a huge part of life now a days. Many professions wouldn't even be able to exist without it and I never realized that before. Without the hard work of programmers, much of society as we know it today would not exist in the same manner. This class really did a good job of highlighting that fact for me.

No offense to programmers of this class, but this semester made me realize that I would never want to get into a career involving this kind of activity. I do not like computers and they frustrate me a lot. Pursuing a career in programming would just lead to me being miserable my whole career. Being that I was undecided all first semester and then switched to ISAT my sophomore year, I really did not have a great idea of what I wanted to do with my life. Even once in ISAT I didn't have any idea what I wanted to concentrate it. This class helped me realize

that I will only be happy in life if I can get out in the world and interact with society and industry. If my life resulted in me just sitting behind a computer all day I would be miserable and I wouldn't feel like I was living up to my potential. Like I said, it is not that I don't think computers and programming is important, it just isn't the right choice for me as a future profession.

Personally, I really liked this style of course. I really enjoyed the laid back atmosphere all semester. It actually made me want to come to class every day even if that meant working through problems that frustrated me. I also really liked how it was so collaborative with all of the people around me. It also worked for me in that I had specific objectives that I had to accomplish. I really hate when teachers are very vague in what they are expecting of me so I really appreciated the fact that we had specific laid out objectives in this course. This is also great because it helps you know how far ahead or behind you are compared to other people in the class. Another thing that I really liked about the style of this course was how you ran everything through the website. It was very easy to finish a program and then just submit it to exorcism and then fetch the next exercise. I liked that a lot.

If I were to take this class again, I would definitely try to maintain the laid back atmosphere that we had this semester. I like the class website and I like how we kind of just work through exercises on our own time. All of those aspects of the course I would encourage you to keep. The one thing I would try to change however, is just the actual amount of lecture that takes place. Like I said before, I had never taken a programming class before so I was literally starting from ground zero. Personally, I felt like you kind of assumed that we all had a certain amount of entry level knowledge. I also felt like the class lacked a sufficient amount of lecture. I understand you kind of have to figure certain things out on your own when it comes to programming, however I felt like ten to fifteen minutes of lecture at the beginning of each class could have gone a long way for myself as well as others.

I would like for you to report an A to the registrar. I feel as though I put in an honest effort in this class and even though there might have been others who obtained a greater amount of measurable results, I feel like I came a long way from where I was when I walked into the classroom for the first time at the beginning of the semester. Not only was I in class almost every day, but I did spend a fair amount of time outside of class working on things. Based off of the number of kids that I saw the first day of class, I know there were a ton of kids who just didn't come at all the entire year. It is my opinion that a dedicated attitude and hard work should be rewarded as such.

**What were your expectations coming into this class?**

My expectation of the class was to learn about and more in depth with python and java since those are the most common languages used. I expected projects related to learning how to code and coding itself. Going into the class, I thought there was going to be a lot of people who already had prior experience with coding and I would feel not up to par with everyone else.

**What learning goals did you set for yourself?**

My goal was to learn a language. I did not expect to learn six different languages. It was really cool though to see how similar and different each language was.

**How did your goals evolve over the course of the semester?**

My goal changed from just learning one language to learning six different languages. At the beginning of the year, my goal was just to be able to accomplish Hello World, as the course progressed, so did my goals. Afterwards my goals were to finish Hello Variables and Operate in all six languages.

**In what ways did you feel you were successful? Please refer to specific, concrete artifacts that would serve as evidence of your successes.**

I feel successful in the fact that I was able to complete Hello World, Hello Variables, and Operate in all six languages. I was surprised and happy at my accomplishments.

**In what areas do you feel you failed to achieve your goals?**

I think I failed to take the time to really understand each languages. I was so focused on just finishing the programs that I did not take the time to truly understand each language. Each language has certain requirements and unique features that I never really got the chance to learn.

**Please reflect on what you think you've learned from your failures, and what, if any, plans you have to address those issues in the future.**

Since I will be taking the next course of programing, I plan to take the time to truly understand a language.

**JMU's Mission Statement is to produce "educated and enlightened citizens who lead meaningful and productive lives." Do you feel more educated? More enlightened? Less so?**

I definitely feel more enlightened. Before this class, I did even know what a command line was or how to get to it. I have learn about some languages I have never even heard of prior to his course. I can take what I have learned in this course to help me with the next level of programming in ISAT.

**How have your activities this semester contributed or detracted from your knowing yourself better and having a better grasp on what you want to do in the near or distant future?**

I still do not know what I want to do in the feature regardless of this class. However, this class has taught me to become more self-motivated.

**How did this style of course work for you?**

The style of the course work was different than most classes I was use too in the fact that it relied more heavily on self-motivation. It was hard at first, but after a while I got used to it. I like the style in the fact that I set my own pace and do things on my time instead of with deadlines. I liked the weekly surveys because they helped me keep track of my goals and allowed me to see if I accomplished my goals or not for the week.

**If you were to take it again what would you recommend that I do it the same or differently?**

I would recommend lecturing a little bit before each class in order to have more structure within the course and so students know what is going on. Then leave the remainder of the class for student to work on the programs.

**What grade would you like for me to report to the registrar for you, and why? As per our agreement, please remember that you can ask me to report any grade that you would like and I will honor that request.**

I would like an A for the class because I put in the work necessary for the class by completing the various programs. I never skipped a single class, even on my birthday Friday when it was so tempting to. I am interested in programing and utilized this course to learn about programing.

My expectations going into this class were pretty high. I was very nervous since I had never played with any sort of programming ever, and I was also nervous about not understanding it. Because I had never taken any sort of programming class before, I expected it to be hard for me to pick up. Just because I had no prior knowledge, I thought writing code was a long, and very complicated process. I did know that we were doing the most basic tests, but I thought all programs had to be very long. Because I didn't know the first thing about programming, I was also kind of excited to learn the basics. I work at the hospital and one of the main problems with getting printers to load instantaneously was solved by a code writing.

Because I knew nothing about programming, I set low goals for being a pro a first, and high goals for me learning the basics. Going into the semester, I remember sitting there on the first day and feeling so overwhelmed by the information in front of me. The first couple of weeks were the absolute worst for me, because it was really like learning a new language. I was still getting used to the syntax, controls, and different shortcuts. It didn't come easily to me at first but I made it my goal to at least understand what was going on, and also to complete all of the hello-world, hello-variables, and operate tests.

My goals evolved over the course of the semester by going from understanding the basics, to actually learning why the tests were passing. I made an effort to look up things, figure out what they did, and had a better overall understanding as to why the test was working. My goals also evolved because instead of just asking questions, I took it upon myself to see if I could figure it out first. My goals evolved from simply learning how to pass a test, to learning why the tests were working.

I feel as though I was successful by completing all of the assignments given to me. It took time, and I started out very slow. I spent almost two weeks on the most basic hello-world for php, and I felt pretty overwhelmed that I didn't even understand it. But I feel as though I was successful because by the end of the semester, I could pump out one of the new tests in a class period. Another way I felt even more successful was that I was able to help others in the class. During the beginning of the semester, I had to ask questions for just about everything. By the end of the semester, I was able to answer people's questions with a fair level of confidence. Being successful to me was learning the basics of programming, and by the end of the semester I feel as though I did that. Learning how to use my command line, navigate through different folders, and saving things to my path made me feel as though I actually learned a lot over the course of the semester. Another way I felt successful was taking what I learned, and implementing it into my stats class. With Dr. Radziwill, I took the basics of what I learned and

did much better in the programming language R. At first I was just as confused in her class as I was in yours, but as time went on I did much better with statistics.

Some areas that I feel as though I failed may be to take what I learned and go into more depth. I understand that I learned basic programming across many different languages, but I do not feel as though I could go much deeper with the knowledge I have. For all purposes, I did like learning as many languages as possible, but if I wanted to dive deeper into one specific language, I feel as though I would have to do a lot of research. Another area that kept me from learning more was the amount of homework I had outside of class. The end of the semester came with as much work as it normally does, and I had to partition my time very carefully. I did make sure to finish all of the assignments, and I even did multiple iterations from the nitpicks, but I feel as though I could have studied more on my own.

What I've learned from my failures is that there is always more room to grow. Because I do not plan on making a future with programming, I will most likely not address the issues I have now. But because programming is so involved online, I do hope to one day look at it again and almost get into it as a hobby. I feel as though the knowledge on programming is very important, especially with how technologically involved my generation is. What I have also learned from my failures is that I should definitely not take for granted how much I learned in the beginning, and take pride in how far I did come in one semester. For never even opening my command line previous to this class, I feel as though I held my own compared to many in that class.

I think that I uphold the mission statement fairly well. Although I do not have any plans at the moment that involve programming, I have the basic knowledge to get started elsewhere. If a job did one day require some sort of programming, I wouldn't be starting from the ground up like I did this semester. I do feel more educated in the sense that I learned multiple programming languages, when previous to the class I had never even opened my command line. I feel enlightened on the subject more than I do educated, due to the fact that I'm better-rounded as compared to completely knowledgeable.

Due to the fact that I didn't have any intentions of carrying on programing into my future, I still don't believe I will. This course solidified that now I know what programming is, I do not have quite an interest for it in my job field. I wouldn't say that any of the activities detracted me from wanting a career path in programming, but it definitely reminded me that I have a long ways to go in that field. I would not say that I'll never use programming, but I don't

think this class influenced me really in one way or the other. I did think it was very interesting and practical, especially for today's job markets.

I very much liked the style of this course. Since it was self-paced, I was able to not freak out and figure things out on my own time. I know this system leaves a lot of room for people to slack off, but it really helped me to not be overwhelmed and take the class at my own pace. By taking it at my own pace, I started out very slow, but eventually gained enough skills to speed up the process. My learning curve looked flat at first, but had a huge incline further into the semester. Because I wasn't stressing about deadlines, I had time to work on other important work, but also had time to come back and do what I needed to for programming. Overall it is a great system if you want to just learn the basics, which I did.

If I took this class again, any changes would have to be based on what I want to do with my future. Because I do not plan on having a programming based future, the class structure worked very well for me. I learned a lot, completed the assignment, and even taught other how to do the same. In that sense, I thought it was very successful and good at teaching me what I wanted to know. But if I already knew the basics of programming, I would have felt a little bored. The only way you can look at the structure of the class and want it to be changed is if you already know a lot about programming, or if you slack off and learn nothing on purpose. I know that I was motivated and finished all of my assignments, but I also know that others were not as much. If you act like an adult and take this class for what it is, you will learn as much as you want.

I think that I do honestly deserve an A in the class. I showed up to every class except 1, and that 1 time I told you as to why I would be missing. Not only did I show up to class but there was never a single day I was late. I made sure to be there early, and this is even travelling from the hospital right before, where I work. During the classes I participated, asked questions, and showed initiative to finishing all the tests. I do feel as though I have a good understanding of the basics of programming. I also think I deserve an A because unless I had a very pertinent assignment, I always put your class first in terms of working assignments. Until I finished all of my tests, and even different iterations, I did not waste time in class.

A

## Self-Reflective Essay: ISAT 252

This semester has been wonderful and I have truly enjoyed the material I am learning in my classes. Last semester I completed COB 300, comprised of the last prerequisite courses to be accepted into the college of business. Although I am a business major in principle I have always been drawn to and much more intrigued by technology and classes that involve technical skill. Being within the college of business so far has provided me with adequate business knowledge that can be highly applicable within the real world, but has never truly grasped my full enthusiasm. Business is valuable to society and I understand the importance of ethical and intelligent businessmen/businesswomen, but I never saw myself being able to work in a corporate business environment. That is why technology appeals to me because it requires creativity and imagination, especially within the realm of programming. All of this culminates to why I am so ecstatic to be into my higher level major classes that all revolve around technology and computer systems. This semester was the start of these technology oriented classes and I decided to take ISAT 252 as an elective to prepare myself for advanced programming next semester.

My expectations entering this class at the beginning of the semester was to become proficient in the basics of programming multiple languages. I have taken a few programming/computer science classes before most recently CIS 221, which focused on Visual Basics, which was an easy programming language. Way back in high school I took HTML and Java courses that also laid the foundation of my programming knowledge. Overall at the beginning of the semester I would have considered myself a novice programmer with some experience but more rust than anything. Basically I wanted to apply my previous programming knowledge to new material and expand my programming horizons. Simply put, I just wanted to become a better programmer that knew more languages.

I do not remember exactly what learning goals I set for myself if I even set any. I came into the course with an open mind ready to learn the ways of the programmer. Broadly I can say that I wanted to expose myself to at least 2 additional programming languages and also wanted to become more skilled working with the command line. Not knowing exactly what programming languages to expect from the course titled ‘Programming and Problem Solving’ I can’t say my original course goals revolved around a single programming language but rather around the art of programming in general. As the semester went on I focused more widely on 3 to 4 programming languages rather than narrowly on 1 or 2. I choose to take a broader approach to learning programming because I wasn’t really sure which language I wanted to stick to. I bounced around from language to language as my interests outside of class shifted. Initially I wanted to learn Python because I had just gotten a Raspberry Pi and wanted to write programs on it. Once I lost interest and began to find new hobbies I started to look into other programming languages. I started doing basic penetration testing on Kali Linux which prompted

me to focus heavily on bash commands and navigating the command line. That was fun and I learned a lot on my virtual machine on my home computer. Once I grew bored of my amateur attempts at hacking I began to focus on web development and HTML and JavaScript. I wanted to begin to prepare myself for my web development class I am taking in Sweden this May. I also thought web development was interesting and fun, building something completely unique from scratch. Next I moved forward to PHP for similar reasons of learning HTML/JavaScript. I didn't get too deep into PHP before finally moving onto Ruby which I probably spent the most time on. My goals throughout the semester constantly shifted just like my commitment to any one programming language.

My success in the course can be defined by a general and structural outlook to programming. Rather than delving deep into a single language and learning all the syntax and semantics of that language I focused on learning the similarities between languages in structure. Programming languages have certain similarities that once learned make it even easier to learn new languages. In this regard I think I had a successful semester, I was able to learn the basics of four languages and have a very solid foundation in programming in general. Concrete evidence of this progression is on Codecademy.com in which I have completed over 50% of the exercises in Ruby, Python, PHP, and HTML/JavaScript.

Some areas that I think I failed and could improve is the integration of Exercism and the ISAT252 website into my daily class activities. I think at first I was overwhelmed by Exercism, and despite my best efforts to wrap my head around how it works, I simply avoided it and began to work on Codecademy.com. I failed in this regard to ask questions and further probe a topic that confused me. I repressed this lack of knowledge and tried my best to proceed without worrying about it. From these failures I learned that it is best to ask questions immediately with something that I don't understand fully rather than wait for it to click in my mind. I waited and waited hoping one day it would all just make sense to me, and of course eventually I just gave it up. I should have asked more questions initially and worked more diligently to utilize this helpful tool you set up for us to use. In regard to this personal failure I learned that it is important to ask questions when necessary. Waiting and hoping to figure something out on your own is irrational and not resourceful. I should have taken advantage of your help and I probably would have clarified my confusion rather than avoiding the problem the whole semester.

JMU's mission statement to produce 'enlightened and educated citizens' applies to my academic career in general. This course has improved my knowledge of programming and proficiency using and understanding how computers work. Although my major doesn't focus heavily upon programming and rather the administration of technology than the development/creation of it through software. I feel enlightened to gain more in depth knowledge on the computer science side of technology and this course has contributed to myself satisfying the JMU mission statement.

This course has helped me learn more about my learning styles and has contributed slightly to thoughts about my future. The style of the class has taught me about self-motivation and the purpose of me coming to college. Your teaching philosophy resounded with me and forced me to reflect upon my efforts to improve myself through education. I am here at college to gain skills and to learn how to learn essentially. Sure college is about having fun and expanding socially but it is primarily about gaining expertise in an area that interest me. After taking this course I think I can say programming may not be for me. I acknowledge the importance of programming within technology and its applications but I couldn't see myself becoming a professional programmer. I'm glad I took this course because it has helped me to further narrow my career options with my CIS degree and Telecommunications minor. I think I am now able to conclude I do not want to place any more focus on coding. I have always been torn between whether I wanted to follow in my brother's footsteps and pursue Computer Science or Computer Information Systems, and I think I made the right decision by choosing CIS. I think this because I do enjoy the business aspect of CIS but also like the technological focus, I especially like Telecommunications and am excited to get into more classes going towards my minor.

I absolutely loved this style of course, and not just because I get to choose my own grade or attend class as I please. The idea that students should inherently care about their own progression academically is novel and resonated deeply with me. I always thought it was a bonus when a class didn't have an attendance policy, but this class has taught me to reevaluate my rationale. I am here in college to learn and squandering this opportunity to learn would be wasteful and ignorant. At the end of the day knowledge is power, and if you want to advance in the world and be something special you must be self-motivated and determined. This class has taught me the value of these principles and why it is important to have a drive within yourself to be the best you can be.

If I were to take the course again I would not change anything. I thoroughly enjoyed the freedom of complete autonomy to learn what I wanted on my own time. It is my ideal style of class, allowing me to work from the comfort of my own room.

In conclusion I would like to receive an A for the course. I learned a lot about programming and about life from your innovative teaching philosophy. This has probably been the most motivated I have been to take full advantage of my education and I am truly seeing the results as I have for the first time gotten all A's. Thanks for the great semester!

## ISAT 252 Evaluation

Coming into this class, I didn't have too many expectations of whether I would like it or not. I love to play video games and I love technology, but didn't know anything about programming and writing code. Once I got to class I set a goal for myself that I wanted to learn more about computers and how they work! Writing basic code and learning about why it is important has greatened my knowledge of computers and what they can do. The power of writing code can make it so someone can make a website or access things that I didn't understand before. As the semester went on, I realized that I had a bigger interest in computers than I thought! I'm an accounting major so I was trying to figure out how I could intertwine my new love for computers and technology and my love for numbers and accounting. I have decided to apply for a Computer Information Systems minor. ISAT 252 is the last prerequisite before I can declare the minor! This class has helped me see that I really do want that minor which is why I will be asking for an A in this class so I can definitely get this minor. I feel like I was very successful in this class. Although I didn't turn in a lot of programming languages in in order to get badges I feel like I learned a lot. After spring break my computer hard drive broke and I wasn't able to turn in assignments. I spent a lot of time trying to figure it out but then decided I'd spend a lot of class time doing research on programming languages and Computer Information Systems as a whole. It's been very beneficial for me to teach and learn from the Internet how it all works. I had success in learning a lot. The fact that I had a lot of trouble turning in a lot of the actual assigned languages is one of my biggest failures in the class. I probably could have asked you for help more and than tried to finished the actual assigned languages. I did learn a lot from this though. I learned that even with some failure, you can still learn a lot! I've always thought that if I don't do exactly what a teacher tells me to do than I wont learn. But in this case, taking a step back from the assignments and researching on my own made me realize that I really do enjoy computer information systems and I should pursue that. I enjoyed class time with my friends whether it'd be by doing the assignments or doing my own research and searching the web about cool things we can all do through the power of computers and technology!

I absolutely feel more educated after taking this class. I learned some code and I learned a lot about the power of technology. It helped me realize that I want to use technology for a long time in my job. Accounting and computer information systems go hand and hand and taking up this minor will help me understand what I'm doing better. Earlier in the semester I was having a lot of trouble personally. I rethought if I wanted to be an accounting major and the path that I wanted to go to graduate. This forced me to really think about what I wanted to do with my future and where I saw myself years from now. That is when I decided to not go for my masters in accounting. I have decided to pick up two minors instead. I have declared a Non-profit Studies minor and have applied to become a CIS minor as well. They will let me know if I get into the program after they evaluate all of my prerequisites with ISAT 252 being the last one that I have to complete. I am very excited about my new path. This class absolutely helped me figure out that I wanted to do this. It helped me realize that I wanted to do with my career. And I am very grateful for the

opportunity to truly find myself in your classroom! It's been a great semester for me, but a bad semester for my academic grades. The style of not being graded on my performance in your class really really helped me through these hard times. I was able to find out what I liked and what I disliked. It pushed myself to find out what I truly want to do. In other classes I don't get to think for myself, I have to blindly do what the teacher tells me or I suffer academically. This class gave me leeway to find what I truly wanted to do and not just blindly follow what I'm told to do.

If I were to critique one thing about the class it would be attendance. I learned a lot while I was in class. But if I would have just missed class all semester long like some people, I would not have learned anything. I'm not saying that there should be a strict 3-5 absence rule, but there should be something to make sure people come to class sometimes. Maybe say if you miss a third or half of the semester, you can change the grade they want down a letter grade or something. I would not have gotten much out of your class if I did not attend. I did miss most Fridays and a few other classes this semester but I was there most Mondays and Wednesdays! That is where I learned a ton.

I would like an A in this class. I learned more in this class than many other business classes. What I learned in this class means more to me this semester than any class I am taking! I learned what I wanted to do with my life this semester and this class is one of the things that helped me do so.