Good afternoon, everyone. I hope everyone's doing well on Wednesday afternoon. We'll get started in just a minute. Welcome back to class that we want to make sure we're recording your Yep, we're going to go to class.  
  
Girl doing well. Thank you for getting your second assignment. I've just gone through and putting the grades for every all of them that were up before class, or at least we're about five minutes ago. A couple of announcements before we get into the material for today. Both knees are things that I already said on Monday, but I wanted to reiterate them for everyone. The first is that your first reflection essays due on Friday evening. The due date is set on Moodle for 11:59 PM on Friday evening. So make sure you get it in before them visits a couple minutes late, don't worry about it, but to give it in on Friday if you have questions about your essay, if you are not sure whether the thesis that you've come up with, it's appropriate for the assignment or not. If you want to talk through and ideas that you come up with. If you're worried that how the thing that you want to express is not closely connected enough to the course material. Any anxieties like that that you have about the essays? I am happy to discuss them with you. I've already talked with a couple of students either by email or we've arranged as Zoom appointments. So if you want to do that, just send me an email and we can talk about your essay topic before it's due. I will also, as always, hang out after class today to answer any questions that people have. Secondly, again, like I said at our last class and we are not going to have class on Monday the 18th. So you have no assigned readings for that day. Just take the day off. Enjoyed a long weekends as best you can right now. Question wouldn't be okay to build on the ideas that we've used in the media assignments. Further reflection, I say Absolutely, yeah, you're very welcome to do that. Yeah, that magnesium is can be a great source of ideas. So yes, you can totally use an idea that you have sort of started to talk about on a mini assignments. And you couldn't Elaborate on it mixture that you're communicating one solid thesis that you've up, one complete argument that you're trying to get across. But absolutely, yes, you can take an idea you've written about for a mini assignment and expand it, make it into a reflection essay. That's fine. Do we still have a pass-fail option for this course? At the moment, the university has not implemented a pass-fail option for summer courses that might change. I know for the last few weeks of the winter semester, we were getting new information almost every day about changes in universities policies. And it went from no path fail at all to pass, fail for some courses to pass, fell for almost every course that university offers. So at the moment, no, there's no pass-fail option, but it's anyone's guess whether that will remain that way or not. And it's not something that I have any control over. So right now, you should approach the course with the mindset that you don't have. That choice opens you. But keep in mind that it may change and keep an eye on university communications. I will tell everyone, of course, if I do hear something, but you'll hear it from other sources. All other general questions about the course before we get into today's content, Wait a minute and see if anything else comes up. Okay, cool, we're gonna move on for now. So today's class represents a bit of a shift for a couple of reasons. The name of that today's sections, that is content that is unit in the syllabus social and ethical codes. On the side here I've added a subtitled ethics values and computed So a couple of shifts that we're making today as compared to the material we've talked about during our last few classes. First of all, we're moving away from talking about technology as a broad categories to talking about computing. So talking about the kinds of ICT, information and communication technologies in the computing technologies writ large is let, the authors for today are concerned with, we're shifting our focus in terms of the kinds of things that we are looking at, down to what most of the rest of this course is concerned with for the last couple of weeks, we're about all different kinds of technologies today. And from most of the rest of the course, we're gonna be talking about computing technologies or information and communication technologies. And more specifically, the other ships is that we're, we're, we're switching our analytical and theoretical mode the bit. So for the past couple weeks, be read, worked by people who were Pullman goes up policy researcher. But a lot of the work that he was citing was from History of Technology. Langdon Winner, who wrote about politics, technologies, whom we read from Monday, is a historian and a sociologist of technology. Lawrence Lessig is a legal scholars that we've already seen lots of different approaches to writing about these topics in technology and society. Today we're shifting again, we're taking a philosophical, so we're talking about ethics in particular. So we're talking about codes in a couple of different senses. Code in the obvious sense of software code, and how we might build, build that kind of culminates in an ethical manner. I also mean code in a second sense. I mean encode in terms of a code of conduct or a code of ethics? How can we create codes of ethics or codes of behavior that will help us build other kinds of codes, computer codes, in ethical ways. So I want to start off class by talking a little bit about that idea of cold and those multiple senses of code that exist. And then I'm going to talk a little bit about ethics in broad terms. And then we're going to talk through the readings and try and bring these ideas together. So this is the plan for today. I think it will be a little bit shorter than today, than today's class will be a bit shorter than the last two patents have been. I know they've both got a bit longer than I told you these lectures would be going today. Should be around the normal links for how I'm expected me to do a course that could change depending on how many questions people have, but I think it will be a little bit shorter, breathe easier today. Okay? So I would like to start by asking you to think about, just think to yourselves. Be silent for a couple of seconds and let you ponder this. How many different types of code can you think of the word code is expensive can mean lots of different things. How many different examples can you think of? Things that we would call code which exist in different contexts? Think about that for a few seconds. I will remain silent and let you do that. Okay. Lots of different kinds of codes? Yes.  
  
Okay. Yeah. So lots of different kinds of codes exist. Obviously computer codes, codes that we program, codes that we, that we use to create software. Probably the first thing that most of you thought of, we have dress codes as we saw someone break right in there in the chat code that prescribe how one is supposed to present one. We'd have codes of ethics like the ACM code that you hopefully read before class today. Codes orders, maybe coats of laws of codes that sort of prescribed people's behaviors. Secret codes, definitely like the one that I have the picture of up here. Codes that are intended to communicate information that's been concealed in some particular way. Genetic codes. The picture in the bottom left here, the other picture that's on the screen in the bottom right is an image of the Code of Hammurabi. This is on one of the sort of the very early kind of translated text. It's from ancient Mesopotamia. It was essentially a code of behavior. So kind of an early code of law, a description of ways in which people ought to be. And I'm sure there are more than I hadn't said now, but there are lots of different senses in which we use the word cold. Lots of different kinds of codes that exist that do very different things. I want to posit that all of these kinds of code have a few things in common. That there are commonalities. There are shared characteristics between all these different things that we referred to as code that existing wildly different contexts. I want to pause it first of all, that they are all sets of instructions that they are all community at a, at a very basic level. They're all communicating some kind of information. They have some kind of X'epsilon sets of instructions that they are intended to get across. Secondly, that they are all executable or enforceable in some way. So they carry information, they carry instructions, and there needs to be some mechanism or some wave for those instructions to be enforced or executed in order to be carried out or in order to be understood. And thirdly, I want to suggest with sort of an implied question mark that maybe there are ways for different kinds of code to embody values, to be embedded with certain ways of viewing the world, certain beliefs about what's important, certain ways of thinking. This is really easy to see in some of these contexts, right? So if we talk about dress codes, dress codes very clearly have values embedded in them, regardless of what the dress code itself in. One of the purposes of a dress code is to communicate how whoever wrote the dress code or whichever organization the dress code is associated with believes that people ought to be presenting themselves. Whether that is sort of around a cohesive look. Whether it involves the idea that people should sort of look at this beam. Whether it involves some kind of ideas about what it means to look professional or how one ought to dress in the workplace. There's a set of values here. Set of beliefs about what's important, beliefs about what the world works that are embodied by dress codes. You could say the same thing very easily about codes of law and codes of ethics, right? He's a codes that tell people how they ought to behave. And they have sort of sets of principles or sets of beliefs behind them. The values argument is maybe a bit more complicated. And some of the other cases of code, if we're talking about a secret code, we could maybe talk about an implied value of the importance of the information that has been encoded, or an implied value of sort of secrecy being important or some sort of hierarchical nature of access to that information. If we think back to Lauren's lessons article from last week, he would certainly argue that software codes and sort of architectures of hardware and software architectures of cyberspace have values embodied in them is a major part of his argument about regular ability of these systems is that certain architectures allow us to do different things. And those, those affordances and allowances of these technologies are based on the values that they are built around. So I want to suggest this idea of value leanness of code. And that is also relates back to things that pollinate. And Gayle talked about, about value laden technologies and value laden design choices. So I wanna put this idea into our heads as we talked through the rest of this material. In particular, as I said earlier today, we're not just talking about code in general, we're talking about ethical code. Ethical code in terms of epically written computer code. And ethical code in terms of codes that tells us how to behave. So we talked very briefly, but code, we're going to very briefly talk about ethics. Now before we try and bring these two ideas together. So I want us all to think for a moment about what ethics is. I'm sure this is a term that you will have heard before. It is a term that will have some connotations for you. I'm sure some of you may know a lot about ethics. When you may not know a lot. I'm betting that you have some connotation that it's associated with philosophy and some idea that it has to do with right and wrong behavior. Maybe when. How can we tell it how to act in a correct way? This isn't a very basic sense what ethics means. In a slightly more complicated sense, ethics is indeed a field of philosophy, a branch of philosophy. So it's one major type of philosophical thinking. It's ethical thing. So ethics, which we can also call moral philosophy, to quote the Internet Encyclopedia of Philosophy here at the top of the slide. Ethics involves systematizing, defending, and recommending concepts of right or wrong. So it is about deciding what is right and what is wrong. It's about doing that in a systematic way, trying to come up with systems that will tell us what is right or wrong. It's about defending our ideas about what is right and what is wrong through defending our sort of norms and standards of ethical behavior and ultimately recommending, right? You want to be able to use ethics to tell people how they should act, to tell people what kinds of behaviors are right and wrong. A branch of philosophy within ethics, we have some other sort of sub branches. There are different types of ethics, different approaches that one can take to studying ethics if one is a philosopher. Generally, people divide ethics into three general subject areas. Meta ethics, normative ethics, and applied ethics. Meta ethics asked where do our ethical principles come? You know what? Why, why do we have these things called ethics? How, how do we, how do we go about defining ethical principles? What is, what are the meeting of the ethical principles that we have? Normative ethics may be the type of epics that many of you are most familiar with. Normative ethical approaches tried to define guidelines, sort of ways that we can tell what kind of behavior is right and wrong. And the final category, applied ethics, looks at sort of specific practical issues. You know, specific questions about capital punishment, for examples, about whether it's ethical to apply the death penalty or not for certain crimes, animal rights, gun control. So if you are working as an applied ethicist, you will work on sort of, sort of one area or one kind of set of issues that's related to a specific topic. And you will try to sort of apply meta ethical and normative ethical principles in considering a specific. So as I said, a lot of the time when we think about ethics, we think of normative ethics. People talk about different ethical approaches are different ethical theories. Very often what they're talking about our normative ethical theories. I'm going to hearken back now to content that some of you may remember from course ENG R21 that you may have taken online recently or not so recently, so very often when people talk about ethics, like I said, we're comparing, contrast normative ethical coaches. So they compare and contrast different guidelines that exist. That try and define what kind of behaviors rate and what kind of behavior is law. And there are some main, dominant approaches to normative ethics as well. So we're sort of narrowing down our art, our tricare, we have all philosophy at the top and ethics is one part of that. Below ethics, we have these different types of ethics, meta ethics, normative ethics, and Applied Ethics. Polo normative ethics in particular, we hadn't have different approaches to actually carrying out the work of defining right and wrong conduct. Different approaches to trying to determine whether something is right or not. So I wouldn't to go through again the three main, kind of major approaches that most people are familiar with to normative ethics. In particular, how do we go about trying to define whether behavior is right or wrong? The first of these is what we call virtue ethics. Now there are lots of different philosophers and different specific philosophical schools associated with each of these categories. Virtue, ethics, and sort of most famously associated with Aristotle. But there are plenty of other virtue ethicists, including modern virtue ethicists who are working now, who exist and who sort of work, you work with under this category of virtue ethics. So in general, if you're a virtue emphasis, if you're someone who does virtue ethics or follows this basic school of thought, you'd think that developing good character, sort of developing good character traits, is really ultimately what determines whether your behavior is ethical or not. If we develop the correct character traits, those traits will automatically push us to act ethically. So in order to act ethically, we shouldn't worry so much about whether our individual specific actions are right or wrong. We should think more about sort of cultivating our ourselves as, as, as ethical human beings. We should be concerned with trying to achieve and develop good character. And we sort of follow those good character traits. We will automatically act rightly off, automatically act, act ethically. So in turn, when we're trying to figure out whether specific action is ethical or not. We might also consider, if we are virtue ethicists, what a person with these positive, virtuous character traits might do if they found themselves in a similar situation. So obviously, if you're going to be a virtue ethicist, you need to decide what the good character traits are that one ought to try and develop. And different philosophers and different philosophical schools have argued about what actually these proper, good and ethical character traits are. Plato had a list of traits that involved wisdom, courage, temperance, and justice. Aristotle also had a bunch of different good character traits. Primary among them webs. With his idea that he called eudaimonia in Greek, which can be translated sometimes it's happiness, but apparently more accurately as sort of the idea of flourishing, kind of live our, live our best lives. There were some medieval Christian philosophers who took up this idea of virtue, ethics and defiance. Cardinal virtues like faith, hope, and charity is things that people ought to try and pursue. But in general, the idea behind virtue ethics is that we ought to try and develop our characters in a certain way. And that will then push us to act correctly when we're looking at specific choices and specific actions. And alternative to this virtue ethics point of view. So a different way of defining normative ethics is sort of competing framework for trying to figure out what behavior is right and what is wrong is again, another kind of broad category called deontology, or sometimes also called duty ethics. And this is most often associated with German philosopher Emmanuel Kant, whose picture you see up on here. But again, there are lots of different deontologists and lots of different deontological approaches. Just as there are many different virtue episode and different schools of thoughts, other virtue ethics. So the main idea here is that deciding whether an action is right or wrong doesn't necessarily come from trying to develop positive character traits. It comes about through the action itself. So if the action that we are taking it in conjunction with some kind of moral law. Or for Kant in particular, if the action that we're taking corresponds to our sort of fundamental moral duty, then we are acting correctly. So if you're a young intelligence, then you look somewhere for some kind of laws or conscience or sense of duty that determines whether specific actions that you take are going to be ethical or not. You please define deontology. Yeah, that's what I'm trying to do now that the analogy is basically the idea that basically within this second bullet, bullet point here at the idea that right and wrong behavior doesn't necessarily, doesn't necessarily come from pursuing good character traits, but from acting in conjunction with moral laws. So if you're a young intelligence than you wanted to find whether a particular action is right or wrong. So not, not whether a person is a good person, generally speaking, but whether a particular action that they are taking is in, is in correspondence with moral laws, whether it's in correspondence with that person's duty or not. So the focus is on the actions themselves rather than on the person's character trait and rather than on the consequences of the action? Yes. Yeah. I think yeah. Action versus intense sort of. Yeah. Yeah. I I'm going to define one more and then we can maybe talk about the differences between them. So one more sort of major, well-known approach to defining normative ethics is the idea of consequentialism. And again, all three of these things I think that you may have heard before in previous courses. So a third alternative, Another way of approaching this problem, in addition to virtue ethics and the ontology, is the idea of consequentialism. This idea is about focusing on the consequences of our actions. So not looking at the character of the prison, not looking at the action itself, but looking at what happened after the, after you take the action, what are the consequences of this thing that you have done or this thing that you plan to do. So once again, lots of different approaches to consequentialism. Lots of different individual philosophers and philosophical schools of thoughts that defined themselves as consequentialist. The most famous one, the one that you're most likely to have heard of is the idea of utilitarianism associated with John Stewart Mill, whose photo you see on this slide, or whose picture you see on this slide. Under utilitarianism, in particular at this school of thought defines a certain way of determining which consequences are favorable in which consequences are not, an action is right. If the consequences of that action are more favorable and unfavorable for everyone. So if we are increasing positive consequences and decreasing or avoiding harm for the largest number of people possible? I'm not sure what the question who was referring to the guy whose picture is on his side? His name is John Stuart Mill, and he's a famous utilitarian. But that's not super important for you to know. For this class. I'm not gonna test you on his name, on the names of any of these people. But if you're interested in reading more about him, his name is John Stuart Mill, M ILL yeah, famous British philosopher, utilitarian, utilitarian from the 19th century. So again, to contrast these different approaches to normative ethics, virtue ethics focuses on the character of the person who's performing an action. Deontology focuses on the action itself. So when I am carrying out this action and my, my acting accordance with some set of rules or some set of laws, or in accordance with my own conscience or my own moral duty, what those laws are or sort of how you determine the thing that an action needs to correspond with will depend on your individual deontologists. Again, there are lots of different approaches. Their content a very specific way in which he defined sort of what moral duty is and where that comes from. But in general, deontological approaches have some sort of set of guidelines. And the goal when you're trying to be ethical is to make sure that the action you're taking matches up with these moral guidelines that exist. Consequentialism and focuses not on character, not on the action itself, but on what happens after that or what we think will happen after that, what can we reasonably foresee to be the consequences of this action that we are considering. And again, if we're a utilitarian in particular, then we look at maximizing good and minimizing harm for the greatest number of people. So utilitarians are famous for sort of getting down to the level of lifetime, trying to come up with equations that are going to quantify it, good and harm. And I explore the numbers of people over which that good and harm is concentrated. And try and give us a precise answer about what the correct ethical absent is going to be at rest. So all three of these are sort of just different approaches to try and try and try and figure out what kind of behavior is rate and what kind of behavior is wrong. This whole discussion that I've just given you. And again, it's not important for you to know the nitty-gritty details that I just sort of important if you don't have a general idea of what normative ethics is, what these different approaches to ethics are, and how they define ethical thinking. These pictures, dow r, of the two authors that you read for today, James More on the left and Deborah Johnson on the right. The two people who wrote with different papers on Computer Ethics So Maureen Johnson have a bit of a different goal in mind than all of these normative ethical philosophers whose pictures you just saw. They are not trying to define a particular sort of way for us to figure out whether a specific action is going to be ethical or not. Instead, they are interested in exploring and sort of a more meta ethical way. So they're sort of taking a different ethical tap here. And they're not trying to give us a sort of specific formula or a specific guideline that will help us tell whether or not action a is going to be the right thing for us to do or not. Instead, they're interested in exploring the idea of Computer Ethics, the question of whether or not computing technologies change what we already know about. Is there something special about computers and the way in which we use computers, and the way in which computers interact with the world that needs to shift the way that we think about ethics, the way that we think about right and wrong behavior, the way that we think about trying to follow some of these ethical guidelines that these normative ethical philosophers of the past have given us? Is there something special about computing technologies that requires that we maybe rethink some of the ethical theories are some of the ways that we've tried to apply ethics in the past. So both of them end up saying yes, yes, there are special things about computers and the way we use them and the way they interact with the world. That mean we need to sort of come up with a computer. We need to use what previous philosophers have taught us about how to define right and wrong behavior. And we need to think about the ways that computers and people who use computers fit into that. And we need to maybe devote some, some serious thought to thinking about how to act ethically in sort of in conjunction with computers and considering the way that computers act on, on the world. So I would say both of these papers are more kind of meta ethical papers. And they're certainly not applied. They're certainly not considering specific problems or specific issues. And they're not really normative because they're not giving us sort of guidelines are direct ways forward there explaining why the idea of Computer Ethics is an important thing. Why this is an area of ethics and area of philosophy that we ought to think more about. So why do we need Computer Ethics? Why can't we just take all these normative ethical approaches that I just talked about that already exist and apply them to computing technologies. What is special in an ethical sense about computers? This is the question that James Moore in particular is trying to answer in his piece, Deborah Johnson, who's piece was written much later than build upon these arguments that more has made and on lots of other scholarship in this area of computer ethics that has come out in the meantime and also tries to address more or less the same cluster. It tries to expand on what other people have already said about the same question. Why is Computer Ethics and important thing? Why does this field exist? What is unique about computers when it comes to ethical behavior? Any chance we're going to talk about Snowden, not today, but later on in the class. Probably, it's certainly you can talk about it in your reflection. And if it's, if you want say that today's class is really about laying a foundation for a lot of other discussions that were going to have that are on more about kind of specific applications of computer ethics. So I'm not going to talk about him today, but we can definitely talk about him in the future. So I want to first go through some of the main, main arguments that more and Johnson are making. It's really important to recognize here, and I won't go through the full kind of context these articles, but it's important to recognize their historical and temporal context. In particular, James Moore's piece was written in 1985, quite a while ago. By this time, right? Very, very different computing contexts that he was living in and writing from very different context in terms of his philosophical peers that he was writing to. He wrote this article called What is Computer Ethics? At a time when computer ethics was not a spade, wasn't an established idea. And in fact, he, and this paper in particular that you read once a long way to establishing computer ethics as a field and establishing the kinds of ideas that he's writing about here. His paper was very foundational very early on, 1985 when he's writing this. Not a lot of people have home computers of any kind, right? This is not by any means the kind of widespread technological phenomenon that it, that it is now. So it in terms of the types of technologies that existed that he's referring to. Keep in mind when you're thinking about his work, that he's living in a wildly different technological contexts than we are now. Different. Johnson's piece came out in the mid-2000. So not super recent, but quite a bit later than Moore's. And quite a bit later also in terms of the kinds of technologies that are available to her to use N'Sync about when she is writing lists. So you may have noticed that she actually cited Moore's paper in her, in her own paper. So she's building directly on this foundation that James more enslaved for the field of Computer Ethics. She also, of course, a lot of other scholarship and a lot of other stuff that has gone on in the meantime that she can also refer to. So keep this in mind also when we're thinking about how these papers work with each other and what kind of arguments they're both contributing, their coming from very different times and they're coming from very different situations, technologically speaking, and they're coming from different situations academically speaking, Jing's more is really trying to define a field. Debra Johnson is working in a field that has existed already, but not for very long. And she so she's still concerned with trying to define it, but not with trying to start it in the way that Moore was. Okay, so why did these people say we need, quote-unquote Computer Ethics? Why can't we just take the ethics that we already have and apply them to situations and questions about computing technologies. First of all, this is from James Moore. This quote is from a famous Moore's peace. He says, computer, I think it is not a fixed set of rules which ones to lapse and hangs on the wall. Nor is Computer Ethics, the rote application of the basic application of ethical principles to a value free technology. Computer ethics requires us to think about the nature of computer technologies and our values. So he says, we have to think in a new way. First of all, about what computing technologies do, and secondly, about what our values around them are. You'll hear me say this word, valued a lot, especially today. But throughout the course in general, Paul Knight, Yale talks about this. Let's say again, when are talking about this? Maybe using slightly different terminology, but it's kinda addressing the same idea, basically expressing the point that on our outlooks and our beliefs, but what's important in the world have a tendency to become expressed through the technologies that we create. And James more things relatively the same way about this thing. So he's saying, he's telling us your what he's trying to do in this piece. He's not trying to come up with a code of ethics here. He's not going to give us a set of rules that we can follow that will help us build ethical computers are built or become ethical computing professionals. He's trying to think through the ethical nature of computing technologies. And he's trying to explain to us why computer ethics needs to be something different than other types of ethics. So the first argument that he starts off making is that computing technologies are new. And because they are new, there are policy vacuums that exist around computing technologies. By this he means there are gaps, there are open spaces and existing laws and regulations that failed to address things that one can do using computing technologies. So there, there, there, there, there are not laws. He says there are laws that we maybe need that are missing, that haven't been created yet, that relate to the ways that computers work in the things that people can do with computer, there are going to be able to do with computers. So we have these clear policy vacuum. But he said it not just the policy that is missing pieces. You know, it's not just our laws and regulations that have missing pieces, we're also missing and kind of correct way to think about these things. When he says there are corresponding conceptual vacuums, it means not only are the laws not there, but the ways that we need to think about these laws are also not there. So we don't have laws and we don't have the means to make the laws that are necessary because of other things that he goes on to describe in the rest of the article. So we need computer ethics because we have this policy vacuums, because we have these laws that we need that don't exist yet. And because we don't even know how to correctly think about how we should be coming up with those laws, what we ought to be doing. Why are these conceptual vacuums there alongside the policy vacuum? In short, his answer to this is because computers are revolutionary technologies. Now again, remember he's writing this in 1985. So he's saying computers are revolutionary. They'd already started to change the way the world works, and they're going to change it in enormous ways in the future. Why are they revolutionary? What is revolutionary about computing technologies? More puts it down to a quality of computers that he calls their logical malleability. This is an important term. This is one that you shouldn't know. Find logical malleability. He means the idea that we can use computers to do all kinds of different things. This is not a tool that's been designed for one specific purpose, or even a small set of specific purposes. To quote from his article, computers can be shaped or molded to any activity that can be characterized in terms of inputs, outputs, and connecting logical operations. So when he says they're logically malleable, he means that we can use computers to do any manner of different things, all kinds of different tasks. So he, he, he later describes computers at the nearest thing we have to a universal tool. So he says, because computers are so universal or have the potential to be so universal because we can use them for so many different purposes. Because they can use so many different things, they have the potential to revolutionize the world in a way that very, very few other technology have on. Yes, this is a kind of technologically to determine a statement, right? Or at least a soft technologically determined statement. Computers are going to change the world because they are so powerful and because we can put them to so many different uses. He's not rejecting the power of people here to use computers, but he's saying that computers have this certain kind of power because of the multitude of different ways in which they can use the multitude of different things that they can do. So we have these policy vacuum, then we don't know how to make laws and rules to fill them because we essentially don't know what we're dealing with yet at the time that he's writing this 1985, in terms of this technology we've just started at this time point, what he sees as a computer revolution, he compares it to the Industrial Revolution. He thinks this is going to change the world. Instead of broad strokes, we're not going to be able to think about things in the same way that we did before. And this is his first argument about why computer ethics is important. It essentially comes down to computer is going to change the way we live and are going to change the way we think because of this logical malleability, because of the immense potential for them to be used for all different kinds of things that in ways that we can't really foresee. That's basically what this quote here, it's saying. During the computer revolution, many of our human activities and social institutions will be transforms. These transformations will leave us with policy and conceptual vacuums about how to use computer technology. Such policy and conceptual vacuums are the marks of basic problems within Computer Ethics. Therefore, Computer ethics is a field of substantial practical importance. Computers that would change the world they already have at the point. But he's bringing this to some degree. These is they're gonna change the world much more. This is going to leave us with gaps in our legal frameworks with lots of open questions about how this technology ought to be used ethically. Therefore, we need Computer Ethics to fill these policy and conceptual vacuums for US. Argument one, argument two, wire, again, still from James more. Why else are computer app? It's important because computer operations are invisible. So not only are computers revolutionary, but they work in ways that are invisible. And he defines three different types of indivisibility. The first is what he calls invisible abuse. And by this he means essentially things that we would already consider to be unethical. So things that are already crimes or things that we already agree are generally bad, that can just be done in ways that are harder to trace or ways that are more invisible through computing, through the use of computing tools, we can do things that we agree are bad already, but we can do them in ways that are harder to find, harder to track down. So that's carried out using a computer is more difficult to see that effect that's carried out physically in a store. This is the kind of argument he's making here. So things that we would already agree our abuse can be done in ways that are harder to find or harder to track down. A second aspect of computing that is invisible, or what he calls programming of values. Again, this is a fairly similar argument to part of Lords, lessens our argument that he discussed on Wednesday, that we discussed on Monday. Sorry. The point that more is making here is that it's often very impossible for us to tell what's kinda values have been built into the computing technologies that we are using. And most of us don't see the code when we use computers from, for most tasks, we just kinda use tools that have been built for us, software and hardware without really understanding how they'd been built, and without knowing sort of what biases are, what values might have been built into this computing technology that we are using. So it has a similar starting point to what Lessig was saying. Lessig then uses that premise and goes on from there to make a point about regulating computer technologies. More. Same premise and going from there to make the point that it's important to develop a kind of specific computer ethics because of the potential for these values to be invisibly embedded in the computing tools that we're using. The final way in which he says computer, computer operations are invisible is in terms of their complexity. So when he talks about invisible complex calculation, the point that he's making here is that because computing operations are so complicated, and because it is therefore impossible for us to follow through every individual step, that in most cases, it's impossible for us to follow through every individual step that a computer program is making. When we use a tool that is based on, on, on that program, then we need to have some level of implied trust, some level of implicit trust that we engage in just from using computing technologies. We have some basic level of trust in the people who built the thin and in the tool itself that we are, that is necessary for us to have, in order to even use user computer or use a computer based tool. Because they are so complex and so complicated that we will never know the details of everything a computer is doing. We need to have some basic level of trust in order to use them in the first place. This is what he's saying about invisible complex calculations. So because of this indivisibility, which he also see those unique to computing and unique to computer operations. Another reason, another pillar of his argument in favor of Computer Ethics, the fact that computers are revolutionary in the fact that a lot of the stuff they do is invisible, is hard, or it's impossible for us to see. So I'm gonna move to the Johnson piece here again, without, without a ton of introduction aside from what I've already given. Because a lot of what Johnson is doing is again, contributing to the same discussion that more has started. She's building on work that he has done and she's adding sort of her own reasons, or she's expanding on Moore's reasons for why a field of computer ethics and practice of computer ethics is important. So Johnson argued that information and communication technologies, ICTs, create new possibilities for human action. And the vth possibilities sometimes do what she calls changing the moral character of a certain action or a different situation. So in simpler terms, computers let us do new things. That's kind of the most basic statement of the first part of this. Not only did they let us do brand new things, but sometimes they let us do with things that we could do previously in different ways. So again, this is quite similar to the arguments that more is making, but sort of moving them forward a bit. She has a discussion at 1 in her article about types and tokens. It's not really important for you to know that terminology. What she means by that is that an act type is like a very simple action. So she talks about a keystroke as being an AX type to say, a sort of simple action that we can engage in on a day-to-day basis. The x token is essentially the result of that AX type. So she says that one of the things that computing technologies can do is change the tokens that are associated with different apps types. So something as simple as moving your finger to strike a key could result in an act token as complex as a computer virus being sent around the world or some sort of attack being true, being triggered in a faraway place. Computers let us, let us do new things, or they can sort of increase the power behind simple actions that we would already have taken before. And these things can change the moral character of actions or situation. So sometimes acting through computers can change the way that we might approach the ethics of a given situation. On I believe she gives here the example of kind of snooping around an office. She says that it would probably be ethically unacceptable for your boss to go and physically you root around your desk, go through your bag, you know, go through a physical diary that you had are physically take your phone and look through it. We probably wouldn't accept that. And an action that would be an immoral action for most of us. However, different kinds of workplace monitoring that are done in a computer mediated way might be more ethically acceptable, at least to some people in some situations. So we may submit, for example, to having our activity on workplace computers monitored in a way that we would not accept if that monitoring was done in a physical sense, right me wouldn't accept having a person stand over our shoulder and watch everything that we were doing on a computer. But we may accept our work computer activities or online activities that weren't being tracked or monitored in some way. And this is what she means by changing the moral character of an action or in situation a similar kind of action being perceived ethically in a different lights because it's done through a computer and not in a different way. Why else do we need Computer Ethics? According to Johnson, coming back to this idea of values and value, leading this and again, building on what more has already said about complexity and values and invincibility computing technology says Johnson, are complex and arg, value laden. Therefore, in order to understand this, the type of technology, in order to sort of come up with good ethical approaches to using it, we need to know how the technology works in a deep way. And we need to know philosophy and you need to know how values work. So she says it's not sufficient to simply apply an existing ethical theory because of the complexity and value lateness of computers. So for, for Johnson, a truly valuable approach to computer ethics involves both a complex understanding of the technology and a complex understanding of ethics and values. She says that we need both of these things in order to really come up with a comprehensive view of what computer ethics is. To sum up them more argues that we don't have existing policy, existing laws, existing regulations that cover Computer Ethics. He says that this is the case because of the revolutionary nature of computers. And the computers are revolutionary because they are so logically malleable and it can be put through so many different purposes. He also talks about how computer operations are invisible. Johnson talks about the potential of computers to give us new types of actions that we can take. Sort of new ways in which we can acts that we will then need to consider the ethical or unethical nature of as well as a new moral character for actions that already existed. She further argue, as John as more, kind of also does, that computing technologies are value laden and complex. And that therefore it's necessary to understand both technological and ethical science of situations before we make a sound judgment about Computer Ethics or about a specific computer mediated action. Questions about this before we move on, I did that with maybe a lot actually stopped a bit earlier. Anything about this that is unclear. Question. Could you re-explain the three invisible points? Yes, sure, I can do that. Let me go back to the US life. So yeah, three different ways in which James more argues that computer operations are invisible. First one, it invisible abuse. By this he means doing things that we already agree or wrong, like stealing. But if we use a computer to do those things, it's harder to see, harder to track, harder to trace, harder for us to notice that this thing that we agree is wrong is happening. That invisible abuse, invisible programming values, is the idea that because we don't know everything about how computing technologies work generally as users, it's very difficult for us to tell what kinds of values, what kind of beliefs about the world? What kinds of biases might have been built-in to the computing technologies that we are using. And the third one, invisible complex calculation. This is his argument that there's always a degree of implied trust involves when we use computing technologies. Because of the immense complexity, those technologies, because it is impossible for us to follow through every aspect of a computer calculate, calculation that the exactly what's happening and exactly how things are being done. We need to in some sense trust that technology before we even start to use it. So we can use computers to do already unethical things on, in invisible waves. We can instill values in computing technologies when we build them that then become very difficult to see. And we need to trust computers in some sense before we use them because of their immense complexity. That's what he means here is the invisibility of programming values, the cause of value laden? I'm not quite sure I understand what you mean, but basically no, not equate value laden technologies. Are any kind of technology, computing technology or not, that has values, has beliefs, has worldviews, have biases embedded in it? So this could be Langdon Winner's highway overpass that had these sort of classist or racist values embedded in it intentionally or not. That's a way we could argue about whether that was maybe also invisible or not. But the argument that more is making here is that in the cases of, in the case of computing technologies, these values become particularly hard to see again, because we don't know exactly how coag works most of the time when we're talking about most users, we just use it.  
  
Yes.  
  
Yeah. I think yeah. Action versus intense sort of. Yeah.  
  
Yeah. Yeah. I I'm going to define one more and then we can maybe talk about the differences between them. So one more sort of major, well-known approach to defining normative ethics is the idea of consequentialism. And again, all three of these things I think that you may have heard before in previous courses. So a third alternative, Another way of approaching this problem, in addition to virtue ethics and the ontology, is the idea of consequentialism. This idea is about focusing on the consequences of our actions. So not looking at the character of the prison, not looking at the action itself, but looking at what happened after the, after you take the action, what are the consequences of this thing that you have done or this thing that you plan to do. So once again, lots of different approaches to consequentialism. Lots of different individual philosophers and philosophical schools of thoughts that defined themselves as consequentialist. The most famous one, the one that you're most likely to have heard of is the idea of utilitarianism associated with John Stewart Mill, whose photo you see on this slide, or whose picture you see on this slide. Under utilitarianism, in particular at this school of thought defines a certain way of determining which consequences are favorable in which consequences are not, an action is right. If the consequences of that action are more favorable and unfavorable for everyone. So if we are increasing positive consequences and decreasing or avoiding harm for the largest number of people possible? I'm not sure what the question who was referring to the guy whose picture is on his side? His name is John Stuart Mill, and he's a famous utilitarian. But that's not super important for you to know. For this class. I'm not gonna test you on his name, on the names of any of these people. But if you're interested in reading more about him, his name is John Stuart Mill, M ILL yeah, famous British philosopher, utilitarian, utilitarian from the 19th century. So again, to contrast these different approaches to normative ethics, virtue ethics focuses on the character of the person who's performing an action. Deontology focuses on the action itself. So when I am carrying out this action and my, my acting accordance with some set of rules or some set of laws, or in accordance with my own conscience or my own moral duty, what those laws are or sort of how you determine the thing that an action needs to correspond with will depend on your individual deontologists. Again, there are lots of different approaches. Their content a very specific way in which he defined sort of what moral duty is and where that comes from. But in general, deontological approaches have some sort of set of guidelines. And the goal when you're trying to be ethical is to make sure that the action you're taking matches up with these moral guidelines that exist. Consequentialism and focuses not on character, not on the action itself, but on what happens after that or what we think will happen after that, what can we reasonably foresee to be the consequences of this action that we are considering. And again, if we're a utilitarian in particular, then we look at maximizing good and minimizing harm for the greatest number of people. So utilitarians are famous for sort of getting down to the level of lifetime, trying to come up with equations that are going to quantify it, good and harm. And I explore the numbers of people over which that good and harm is concentrated. And try and give us a precise answer about what the correct ethical absent is going to be at rest. So all three of these are sort of just different approaches to try and try and try and figure out what kind of behavior is rate and what kind of behavior is wrong. This whole discussion that I've just given you. And again, it's not important for you to know the nitty-gritty details that I just sort of important if you don't have a general idea of what normative ethics is, what these different approaches to ethics are, and how they define ethical thinking. These pictures, dow r, of the two authors that you read for today, James More on the left and Deborah Johnson on the right. The two people who wrote with different papers on Computer Ethics So Maureen Johnson have a bit of a different goal in mind than all of these normative ethical philosophers whose pictures you just saw. They are not trying to define a particular sort of way for us to figure out whether a specific action is going to be ethical or not. Instead, they are interested in exploring and sort of a more meta ethical way. So they're sort of taking a different ethical tap here. And they're not trying to give us a sort of specific formula or a specific guideline that will help us tell whether or not action a is going to be the right thing for us to do or not. Instead, they're interested in exploring the idea of Computer Ethics, the question of whether or not computing technologies change what we already know about. Is there something special about computers and the way in which we use computers, and the way in which computers interact with the world that needs to shift the way that we think about ethics, the way that we think about right and wrong behavior, the way that we think about trying to follow some of these ethical guidelines that these normative ethical philosophers of the past have given us? Is there something special about computing technologies that requires that we maybe rethink some of the ethical theories are some of the ways that we've tried to apply ethics in the past. So both of them end up saying yes, yes, there are special things about computers and the way we use them and the way they interact with the world. That mean we need to sort of come up with a computer. We need to use what previous philosophers have taught us about how to define right and wrong behavior. And we need to think about the ways that computers and people who use computers fit into that. And we need to maybe devote some, some serious thought to thinking about how to act ethically in sort of in conjunction with computers and considering the way that computers act on, on the world. So I would say both of these papers are more kind of meta ethical papers. And they're certainly not applied. They're certainly not considering specific problems or specific issues. And they're not really normative because they're not giving us sort of guidelines are direct ways forward there explaining why the idea of Computer Ethics is an important thing. Why this is an area of ethics and area of philosophy that we ought to think more about. So why do we need Computer Ethics? Why can't we just take all these normative ethical approaches that I just talked about that already exist and apply them to computing technologies. What is special in an ethical sense about computers? This is the question that James Moore in particular is trying to answer in his piece, Deborah Johnson, who's piece was written much later than build upon these arguments that more has made and on lots of other scholarship in this area of computer ethics that has come out in the meantime and also tries to address more or less the same cluster. It tries to expand on what other people have already said about the same question. Why is Computer Ethics and important thing? Why does this field exist? What is unique about computers when it comes to ethical behavior? Any chance we're going to talk about Snowden, not today, but later on in the class. Probably, it's certainly you can talk about it in your reflection. And if it's, if you want say that today's class is really about laying a foundation for a lot of other discussions that were going to have that are on more about kind of specific applications of computer ethics. So I'm not going to talk about him today, but we can definitely talk about him in the future. So I want to first go through some of the main, main arguments that more and Johnson are making. It's really important to recognize here, and I won't go through the full kind of context these articles, but it's important to recognize their historical and temporal context. In particular, James Moore's piece was written in 1985, quite a while ago. By this time, right? Very, very different computing contexts that he was living in and writing from very different context in terms of his philosophical peers that he was writing to. He wrote this article called What is Computer Ethics? At a time when computer ethics was not a spade, wasn't an established idea. And in fact, he, and this paper in particular that you read once a long way to establishing computer ethics as a field and establishing the kinds of ideas that he's writing about here. His paper was very foundational very early on, 1985 when he's writing this. Not a lot of people have home computers of any kind, right? This is not by any means the kind of widespread technological phenomenon that it, that it is now. So it in terms of the types of technologies that existed that he's referring to. Keep in mind when you're thinking about his work, that he's living in a wildly different technological contexts than we are now. Different. Johnson's piece came out in the mid-2000. So not super recent, but quite a bit later than Moore's. And quite a bit later also in terms of the kinds of technologies that are available to her to use N'Sync about when she is writing lists. So you may have noticed that she actually cited Moore's paper in her, in her own paper. So she's building directly on this foundation that James more enslaved for the field of Computer Ethics. She also, of course, a lot of other scholarship and a lot of other stuff that has gone on in the meantime that she can also refer to. So keep this in mind also when we're thinking about how these papers work with each other and what kind of arguments they're both contributing, their coming from very different times and they're coming from very different situations, technologically speaking, and they're coming from different situations academically speaking, Jing's more is really trying to define a field. Debra Johnson is working in a field that has existed already, but not for very long. And she so she's still concerned with trying to define it, but not with trying to start it in the way that Moore was. Okay, so why did these people say we need, quote-unquote Computer Ethics? Why can't we just take the ethics that we already have and apply them to situations and questions about computing technologies. First of all, this is from James Moore. This quote is from a famous Moore's peace. He says, computer, I think it is not a fixed set of rules which ones to lapse and hangs on the wall. Nor is Computer Ethics, the rote application of the basic application of ethical principles to a value free technology. Computer ethics requires us to think about the nature of computer technologies and our values. So he says, we have to think in a new way. First of all, about what computing technologies do, and secondly, about what our values around them are. You'll hear me say this word, valued a lot, especially today. But throughout the course in general, Paul Knight, Yale talks about this. Let's say again, when are talking about this? Maybe using slightly different terminology, but it's kinda addressing the same idea, basically expressing the point that on our outlooks and our beliefs, but what's important in the world have a tendency to become expressed through the technologies that we create. And James more things relatively the same way about this thing. So he's saying, he's telling us your what he's trying to do in this piece. He's not trying to come up with a code of ethics here. He's not going to give us a set of rules that we can follow that will help us build ethical computers are built or become ethical computing professionals. He's trying to think through the ethical nature of computing technologies. And he's trying to explain to us why computer ethics needs to be something different than other types of ethics. So the first argument that he starts off making is that computing technologies are new. And because they are new, there are policy vacuums that exist around computing technologies. By this he means there are gaps, there are open spaces and existing laws and regulations that failed to address things that one can do using computing technologies. So there, there, there, there, there are not laws. He says there are laws that we maybe need that are missing, that haven't been created yet, that relate to the ways that computers work in the things that people can do with computer, there are going to be able to do with computers. So we have these clear policy vacuum. But he said it not just the policy that is missing pieces. You know, it's not just our laws and regulations that have missing pieces, we're also missing and kind of correct way to think about these things. When he says there are corresponding conceptual vacuums, it means not only are the laws not there, but the ways that we need to think about these laws are also not there. So we don't have laws and we don't have the means to make the laws that are necessary because of other things that he goes on to describe in the rest of the article. So we need computer ethics because we have this policy vacuums, because we have these laws that we need that don't exist yet. And because we don't even know how to correctly think about how we should be coming up with those laws, what we ought to be doing. Why are these conceptual vacuums there alongside the policy vacuum? In short, his answer to this is because computers are revolutionary technologies. Now again, remember he's writing this in 1985. So he's saying computers are revolutionary. They'd already started to change the way the world works, and they're going to change it in enormous ways in the future. Why are they revolutionary? What is revolutionary about computing technologies? More puts it down to a quality of computers that he calls their logical malleability. This is an important term. This is one that you shouldn't know. Find logical malleability. He means the idea that we can use computers to do all kinds of different things. This is not a tool that's been designed for one specific purpose, or even a small set of specific purposes. To quote from his article, computers can be shaped or molded to any activity that can be characterized in terms of inputs, outputs, and connecting logical operations. So when he says they're logically malleable, he means that we can use computers to do any manner of different things, all kinds of different tasks. So he, he, he later describes computers at the nearest thing we have to a universal tool. So he says, because computers are so universal or have the potential to be so universal because we can use them for so many different purposes. Because they can use so many different things, they have the potential to revolutionize the world in a way that very, very few other technology have on. Yes, this is a kind of technologically to determine a statement, right? Or at least a soft technologically determined statement. Computers are going to change the world because they are so powerful and because we can put them to so many different uses. He's not rejecting the power of people here to use computers, but he's saying that computers have this certain kind of power because of the multitude of different ways in which they can use the multitude of different things that they can do. So we have these policy vacuum, then we don't know how to make laws and rules to fill them because we essentially don't know what we're dealing with yet at the time that he's writing this 1985, in terms of this technology we've just started at this time point, what he sees as a computer revolution, he compares it to the Industrial Revolution. He thinks this is going to change the world. Instead of broad strokes, we're not going to be able to think about things in the same way that we did before. And this is his first argument about why computer ethics is important. It essentially comes down to computer is going to change the way we live and are going to change the way we think because of this logical malleability, because of the immense potential for them to be used for all different kinds of things that in ways that we can't really foresee. That's basically what this quote here, it's saying. During the computer revolution, many of our human activities and social institutions will be transforms. These transformations will leave us with policy and conceptual vacuums about how to use computer technology. Such policy and conceptual vacuums are the marks of basic problems within Computer Ethics. Therefore, Computer ethics is a field of substantial practical importance. Computers that would change the world they already have at the point. But he's bringing this to some degree. These is they're gonna change the world much more. This is going to leave us with gaps in our legal frameworks with lots of open questions about how this technology ought to be used ethically. Therefore, we need Computer Ethics to fill these policy and conceptual vacuums for US. Argument one, argument two, wire, again, still from James more. Why else are computer app? It's important because computer operations are invisible. So not only are computers revolutionary, but they work in ways that are invisible. And he defines three different types of indivisibility. The first is what he calls invisible abuse. And by this he means essentially things that we would already consider to be unethical. So things that are already crimes or things that we already agree are generally bad, that can just be done in ways that are harder to trace or ways that are more invisible through computing, through the use of computing tools, we can do things that we agree are bad already, but we can do them in ways that are harder to find, harder to track down. So that's carried out using a computer is more difficult to see that effect that's carried out physically in a store. This is the kind of argument he's making here. So things that we would already agree our abuse can be done in ways that are harder to find or harder to track down. A second aspect of computing that is invisible, or what he calls programming of values. Again, this is a fairly similar argument to part of Lords, lessens our argument that he discussed on Wednesday, that we discussed on Monday. Sorry. The point that more is making here is that it's often very impossible for us to tell what's kinda values have been built into the computing technologies that we are using. And most of us don't see the code when we use computers from, for most tasks, we just kinda use tools that have been built for us, software and hardware without really understanding how they'd been built, and without knowing sort of what biases are, what values might have been built into this computing technology that we are using. So it has a similar starting point to what Lessig was saying. Lessig then uses that premise and goes on from there to make a point about regulating computer technologies. More. Same premise and going from there to make the point that it's important to develop a kind of specific computer ethics because of the potential for these values to be invisibly embedded in the computing tools that we're using. The final way in which he says computer, computer operations are invisible is in terms of their complexity. So when he talks about invisible complex calculation, the point that he's making here is that because computing operations are so complicated, and because it is therefore impossible for us to follow through every individual step, that in most cases, it's impossible for us to follow through every individual step that a computer program is making. When we use a tool that is based on, on, on that program, then we need to have some level of implied trust, some level of implicit trust that we engage in just from using computing technologies. We have some basic level of trust in the people who built the thin and in the tool itself that we are, that is necessary for us to have, in order to even use user computer or use a computer based tool. Because they are so complex and so complicated that we will never know the details of everything a computer is doing. We need to have some basic level of trust in order to use them in the first place. This is what he's saying about invisible complex calculations. So because of this indivisibility, which he also see those unique to computing and unique to computer operations. Another reason, another pillar of his argument in favor of Computer Ethics, the fact that computers are revolutionary in the fact that a lot of the stuff they do is invisible, is hard, or it's impossible for us to see. So I'm gonna move to the Johnson piece here again, without, without a ton of introduction aside from what I've already given. Because a lot of what Johnson is doing is again, contributing to the same discussion that more has started. She's building on work that he has done and she's adding sort of her own reasons, or she's expanding on Moore's reasons for why a field of computer ethics and practice of computer ethics is important. So Johnson argued that information and communication technologies, ICTs, create new possibilities for human action. And the vth possibilities sometimes do what she calls changing the moral character of a certain action or a different situation. So in simpler terms, computers let us do new things. That's kind of the most basic statement of the first part of this. Not only did they let us do brand new things, but sometimes they let us do with things that we could do previously in different ways. So again, this is quite similar to the arguments that more is making, but sort of moving them forward a bit. She has a discussion at 1 in her article about types and tokens. It's not really important for you to know that terminology. What she means by that is that an act type is like a very simple action. So she talks about a keystroke as being an AX type to say, a sort of simple action that we can engage in on a day-to-day basis. The x token is essentially the result of that AX type. So she says that one of the things that computing technologies can do is change the tokens that are associated with different apps types. So something as simple as moving your finger to strike a key could result in an act token as complex as a computer virus being sent around the world or some sort of attack being true, being triggered in a faraway place. Computers let us, let us do new things, or they can sort of increase the power behind simple actions that we would already have taken before. And these things can change the moral character of actions or situation. So sometimes acting through computers can change the way that we might approach the ethics of a given situation. On I believe she gives here the example of kind of snooping around an office. She says that it would probably be ethically unacceptable for your boss to go and physically you root around your desk, go through your bag, you know, go through a physical diary that you had are physically take your phone and look through it. We probably wouldn't accept that. And an action that would be an immoral action for most of us. However, different kinds of workplace monitoring that are done in a computer mediated way might be more ethically acceptable, at least to some people in some situations. So we may submit, for example, to having our activity on workplace computers monitored in a way that we would not accept if that monitoring was done in a physical sense, right me wouldn't accept having a person stand over our shoulder and watch everything that we were doing on a computer. But we may accept our work computer activities or online activities that weren't being tracked or monitored in some way. And this is what she means by changing the moral character of an action or in situation a similar kind of action being perceived ethically in a different lights because it's done through a computer and not in a different way. Why else do we need Computer Ethics? According to Johnson, coming back to this idea of values and value, leading this and again, building on what more has already said about complexity and values and invincibility computing technology says Johnson, are complex and arg, value laden. Therefore, in order to understand this, the type of technology, in order to sort of come up with good ethical approaches to using it, we need to know how the technology works in a deep way. And we need to know philosophy and you need to know how values work. So she says it's not sufficient to simply apply an existing ethical theory because of the complexity and value lateness of computers. So for, for Johnson, a truly valuable approach to computer ethics involves both a complex understanding of the technology and a complex understanding of ethics and values. She says that we need both of these things in order to really come up with a comprehensive view of what computer ethics is. To sum up them more argues that we don't have existing policy, existing laws, existing regulations that cover Computer Ethics. He says that this is the case because of the revolutionary nature of computers. And the computers are revolutionary because they are so logically malleable and it can be put through so many different purposes. He also talks about how computer operations are invisible. Johnson talks about the potential of computers to give us new types of actions that we can take. Sort of new ways in which we can acts that we will then need to consider the ethical or unethical nature of as well as a new moral character for actions that already existed. She further argue, as John as more, kind of also does, that computing technologies are value laden and complex. And that therefore it's necessary to understand both technological and ethical science of situations before we make a sound judgment about Computer Ethics or about a specific computer mediated action. Questions about this before we move on, I did that with maybe a lot actually stopped a bit earlier. Anything about this that is unclear. Question. Could you re-explain the three invisible points? Yes, sure, I can do that. Let me go back to the US life. So yeah, three different ways in which James more argues that computer operations are invisible. First one, it invisible abuse. By this he means doing things that we already agree or wrong, like stealing. But if we use a computer to do those things, it's harder to see, harder to track, harder to trace, harder for us to notice that this thing that we agree is wrong is happening. That invisible abuse, invisible programming values, is the idea that because we don't know everything about how computing technologies work generally as users, it's very difficult for us to tell what kinds of values, what kind of beliefs about the world? What kinds of biases might have been built-in to the computing technologies that we are using. And the third one, invisible complex calculation. This is his argument that there's always a degree of implied trust involves when we use computing technologies. Because of the immense complexity, those technologies, because it is impossible for us to follow through every aspect of a computer calculate, calculation that the exactly what's happening and exactly how things are being done. We need to in some sense trust that technology before we even start to use it. So we can use computers to do already unethical things on, in invisible waves. We can instill values in computing technologies when we build them that then become very difficult to see. And we need to trust computers in some sense before we use them because of their immense complexity. That's what he means here is the invisibility of programming values, the cause of value laden? I'm not quite sure I understand what you mean, but basically no, not equate value laden technologies. Are any kind of technology, computing technology or not, that has values, has beliefs, has worldviews, have biases embedded in it? So this could be Langdon Winner's highway overpass that had these sort of classist or racist values embedded in it intentionally or not. That's a way we could argue about whether that was maybe also invisible or not. But the argument that more is making here is that in the cases of, in the case of computing technologies, these values become particularly hard to see again, because we don't know exactly how coag works most of the time when we're talking about most users, we just use it. Okay. Cool. Other questions? Okay. I'm gonna move on for now. Okay, so mourn Johnson, I think fairly effectively established this idea that there is something ethically unique about computers. And we ought to maybe think about Computer Ethics in a special way. Johnson in particular then also argues a bit about who needs Computer Ethics. So for whom might Computer Ethics? The important, who should be thinking about and understanding these kinds of ethical approaches to computers. First, she says Computer Ethics are important for people who work with computers, computer scientists, IT professionals, anyone who works with computing. This is, I think, fairly obvious. She uses an idea called social contract theory to describe why it's important. Social contract theory basically describes how members of a profession attain certain privileges. So maybe money from their salaries are sort of increased social status or something like that. We had gained certain privileges or rights or benefits in exchange for acceptance, certain responsibilities. So in this case, what she's saying is that computer scientists and IT professionals game their wages and their social standing and whatever else they have in exchange for accepting the responsibility that they need to be careful about the technologies that they create and the ethics of those technologies. So there are lots of different ways that you could make this argument. She uses social contract theory in particular. But her first argument is, if you're a person who works with computers, then you need to understand something about Computer Ethics. Computer ethics will be important for you. She doesn't stop there though. So that's, that's where she starts. But she goes on to say, actually, computer ethics are important for everyone, not just for people who work with computers or who understand computers in a deep way. But there are actually important for everybody because a lot of the issues at stake in computer ethics are not just issues for the people who create technologies. There are issues for all citizens. Many of the core issues in computer epic, she says here are social value and policy issues such as privacy and property rights. You do have a whole unit on sort of privacy and big data coming up in a few weeks just to see, you know, if that's something you're particularly, and these are issues for all citizens. She says not just computer professionals, so particularly important for computing professionals, but really important for everybody because the issues that are touched upon here are issues that exist for it, for everyone and not just computing professionals. She then goes on at the end of her piece to define some kind of particular areas of Computer Ethics. I'm not gonna talk through these now because many of them are issues that we're going to come back to later in the course. And in some cases, issues that we have an entire week's content devoted to. But she defined in some kind of particular areas in which computer ethics is important and goes through some kind of main questions that exist within those realms. Like I said, many of which we're gonna come back to later in this class. Okay, so I also asked you to read the ACM code of ethics for computing professionals. I want to just, I want to move from talking about more and Johnson now to talking about these other kinds of ethical codes. So how do we create a code of ethics that will guide us about how to create ethical code for lack of better words, or to use sort of both of the tenses of ethical code that we're talking about today. How do we do this when James Moore has already told us in his piece. But computer ethics is not a fixed set of rules, which ones collapse and hangs on the wall. And he doesn't want us to sort of think about Computer Ethics in terms of a specific set of rules. Or at least he didn't, he didn't in 1998, 85 when he wrote this piece. And yet this is an exercise that very many people have tried to engage in, right? Lots of people have looked at computer athletes are looked at ethical issues surrounding computing technologies and tried to come up with a list of things that we can write. List of guidelines, a sort of deontological guiding force, if you will, something that can help us determine whether or not our actions are going to be ethical or not. So lots of people have tried to do this on the ACM, has tried to do this with a piece that I had you read. Other people and groups have tried to do it in different ways. Some of these approaches have tried to define guidelines for making ethical computers. So making actual machines, making actual technologies that will act ethically. This is particularly prevalent in the field of AI, so we're not gonna talk about that a lot today because again, we have a whole week on AI coming up. But lots of people who work in a AID talk and think and work on artificial intelligence like to try and come up with rules that will guide us somehow or are intended to guide us to create Moral Machines, ethical AIs. There are lots of different examples of this. This is quite an old one, Isaac Asimov's laws of robotics, right? So this is one kind of code of ethics, code of ethics that has attempted to define guidelines for creating Moral Machines, right? Moral robots, robots that are going to act ethically. Isaac Asimov was, of course, a science fiction author. He wrote during the 20th century. One thing that's important to note when thinking about his laws of robotics is that he didn't really intend views to be sort of hard and fast rules that we're going to be a solution to everything. In fact, many of Asimov's ONE site stories that he wrote were about people who tried to follow these laws and they ended up resulting in an unintended and horrific consequences. Right at his story, I Robot is actually about exactly that happening. So he didn't intend to be a sort of genuinely perfect set of principles that one could use to create moral and ethical machines. However, that has not stopped many people, including many people who've done serious research in AI, from either trying to adopt these as an ethical code or trying to think of ways to slightly modify these laws to come up with a way that they could actually be used. Laws that do tend to be seriously discussed or at least were seriously discussed for a long time around questions of how to create ethical machines, ethical computing technologies. So I love defines these laws. He defined them in order, and the order is important. He sort of came up with the first three and then later added a euro width law that came before all of them. So in order, his law though that a robot may not harm humanity or through inaction, allow humanity becomes a harm. His first law than states that a robot may not injure a human being. So contrast here between humanity as a whole, as a whole group in the zeroeth law and individual human beings. In the first block, a robot may not injure a human being or through inaction, allow a human being to come to harm, except we're following this law would conflict with the above law. This is why the order matters. Second law, a robot must obey the orders given to it by humans, except where such orders would conflict with the above laws. And finally, the third law, robot must protect its own existence as long as that protection does not conflict with the above laws. So again, this is an attempt to define a moral machine and attempted to find how to create an ethical computing technology. Yes, Asimov is the science fiction author. So there are lots of ways that people can and do and have critiqued this particular attempts. They've critiqued it through sort of definitional questions. Are definitional uncertainty, what does harm mean exactly? And who is getting to define harm, right? How do we define human beings or humanity even? This is something that's sort of honor. Asimov's own stories hinged on. Then their execution questions. Write, these laws are written in English. They're not written in code. How would you go about implementing these laws when you were actually creating a technology for that matter. How might you detect, predict, or measure of harm? Even if we can come to an agreement about what harm isn't, how it ought to be defined. How can we tell that harm has occurred? Or how can we predict that it's going to occur before it's having the prediction question is also a common critique of utilitarianism and other consequentialist approach is the fact that it's often very difficult to predict what kind of consequences will happen before an action that's been taken? Then there are some practical issues. You know, the idea of the fact that there are existing robots and existing technologies that we've made that already violate these laws, right? If we're looking at drone warfare, for example, this is indirect cost. But that, that sort of reason why these machines exist in the purposes to which they are used directly contradicts the first law, as he stated here. And we might train to find some sort of define or identify some issues that are outside the scope of these laws altogether. So this is one admittedly flawed attempts to define an ethical code in terms of creating at the goal computers, creating Ethical Robots, creating Ethical Technology. Other approaches like the one that the ACM took, the Association for Computing Machinery, whose code of ethics I had you read I'm sorry. They don't train to find ways to create moral technologies are ethical technologies. They tried to define rules for ethical human conduct that they believe will then lead to the creation of moral or ethically acceptable technologies. So I really want to draw a distinction between these two types of ethical codes, right? Some that are designed for the creation of ethical technologies and some that are designed to guide human behavior in the hope that ethical human behaviour will result in the creation of ethical technologies. So the one that I had you read from the ACM as an example of that latter category, right? These are guidelines for the ways that people should act. Tell you in specific, detailed how to program the computer technologies that you are going to create. They tell you in broad terms how you should act and what things are that you should think about in order to try and hopefully create technologies that are going to have positive consequences, that are going to have ethical results. So I'm not going to go through the whole code of ethics. I'm just going to highlight a few things. I'm going to highlight, first of all, a couple of aspects from the beginning, from the preambles that sort of motivate why this code exists in the first place. So first of all, who is at four? And the code is designed to inspire and guide the ethical conduct of all computing professionals, including current and aspiring practitioners, instructors, students, influencers, and anyone who use computing technology in an impactful way. Break, this means all of you, this means knead this one. Anyone who's currently in the workforce as a computing professional, anyone who was learning how to sort of be a computing professional or who is already acting in a professional capacity. The ACM hopes that your behavior, our behavior is going to be guided by this document that they have created. The code includes principles formulated as statements of responsibility based on the understanding of the public good is all, is always the primary consideration. So this is the basic principle that has been informed that this is one of trying to promote and protect the public good. This is kinda the main motivation behind this, trying to make sure that the public is safe. And they have accordingly sort of formulated this as a set of signals of responsibilities. So they say that computing professionals shouldn't. And then they list all of these different aspects of these different statements and there are different sections to that. The second part that I'm gonna go through in the first section after the preamble of the document is a set of specific ethical principles. So I've listed all the principles themselves on the slide. If you look at the document, they have more details about all of these, but they're not, they're not particularly details. This section is really meant to define the sort of basic, basic principles, basic guidelines, basic values, if you will, that guide the rest of this document. So these are the things that they want computing professionals to sort of think are important and pursue in their work. A, computing professionals should contribute to society and well-being. Acknowledging that all people are stakeholders in computing. A computing professionals should avoid harm. A computing professionals would be honest and trustworthy. A computing professionals should be fair and take action not to discriminate. A computing professionals should respect the work required to produce new ideas, inventions, creative works, and computing artifacts. A, computing professionals would respect privacy, and the computing professionals should honor confidentiality. Note that they've separated privacy and confidentiality into two different points. So give them the basic principles behind their attempt to define an ethical framework for humans who work in the design, creation and maintenance of computing technologies. Oh, yeah, I didn't have a lot more to say about less. As I mentioned a few times earlier, I just want to harken back to his points from Monday's class very briefly. I want to say that although we talked about Lawrence Lessig's chapter on Monday, in terms of what do you think about a politics of cyberspace and the politics of technologies? He's also making points about the power of code or the power of cyberspace architecture to define ethical behaviors, right? Use for stories that he tells us are not just about politics, they're also about the ways, how the ways in which cyberspace has been constructed. Acts to permit certain kinds of behaviors can act unintentionally, I think is sort of ethical guidelines for people. So when he's talking about cold regulating us, He doesn't just mean that in a kind of legal sense, he means it and that sort of moral and ethical sense also. So I think it's important to consider lessons argument not just go end up political technologies like we talked about on Monday, but also through the lens of ethical technologies and ethical behaviors. But that's all I'm gonna say about that. So let me introduce your mini assignment for this week. It's a bit different than the two that we've done previously. So I've called this mini assignment building ethical code. And again, I mean this in the two different senses of ethical code. Both in terms of creating a code of ethics that's meant to guide people's behavior or guide computers behaviors. And secondly, in the sense of sort of making, making ethical architectures, making, making ethical programming code. So this mini assignment attempts to get you to engage with more in Johnson's theoretical ideas about the importance of that Computer Ethics alongside the ACM attempts to put computer ethics into practice. For this mini assignment, you will pick one of the parts of Section three of the ACM code of ethics. So this is not a section that I went through on the slides. My slides had apart from the preamble, and they had the main points from section one. I am asking you to look at Sections three. And this is the section called professional leadership principles. And I am asking you to pick one of the parts of that section. So either 3.1 to 3.7, you could pick 3.33.5. Any of those points, at any of those kind of sub points that you want, pick one of those. Basically, this section outlines behaviors that are slightly more specific than these guiding principles that they define. Behaviors that they think people who are leaders in computing scenario is often practicing. So first pick one of those things. So one of the points between 3.133.7, but that part that you have picked, I then want you to explain two things. I want you to first give me a practical example of a type of ethical workplace behavior that could result from following this part of the code. So this code is still quite general. Section three is less general than Section one is, But they're still quite sort of rod, open-ended categories. I want you to read the part that you picked. And then I want you to give a specific practical example of a kind of behavior that could result in the workplace from following this part of the code. So if you were to act in accordance with the code of ethics, what would you do? Give me a specific example of a thing that you would do as a computing professional leader that would correspond to whichever part you have picked. Secondly, I want you to make a connection between this code, this practical attempt to define ethical behavior, and either more or Johnsons theoretical argument about Computer Ethics. Now this one is a little more open-ended. I recognize what I want you to do is find a way to connect this very more practical, more specific code of ethics to the more theoretical arguments that more and Johnson are meeting. So do you think, for example, that this aspect of the cone is trying to address what Johnson says about computing technology is changing the moral character of our actions. Do you think that this code relates to James Morris? The concept of invisible programming values in some way doesn't really matter what you go with here. I just want you to think about the pieces of it I asked you to read for today together and find some way to connect the specific part of the ACM code of ethics. But you have picked with some theoretical aspects from either more or Johnsons arguments about computer ethics. I would like you to just write a few sentences in response to each of these questions posted in the forum. As usual, because we have no class on Monday and because your essays are due on Friday night, I wanted I decided to give you a few extra days to do this one. So if you want to just concentrate on your essay first and then do this over the weekend or on Monday. That's totally fine. Normally this would be due by Friday evening, but instead I've said it's due by Monday nights. I won't look at them until Tuesday morning, so you don't need to there's no specific time that they're due. Just get them in Monday or before Monday night. Any questions about this mini assignment? Questions about what I'm asking you to do here. Okay. I'll go through the reading hints for next week and then class will be over and I can hang out and answer any questions that exists bent. So remember no class on Monday. So reading hints for next Wednesday, we're gonna be talking about ICT than social interaction. Social interaction, social institutions. There's two different pieces for you to read for Wednesday. Both are a chapter from a book from two different books. The first book is by an author named Dana Boyd. The book is called its complicated the social lives of networks, teams. This is a book that Dana Boyd has written based on anthropological study of teenagers, sort of preteens and teams behaviors online during the early 20 tens was at the time that she conducted the research for this book. It came out in, I think, 2014 or 2015. The chapter that I've assigned is one of the last chapters in the book. So she's drawing together a lot of ships, drawing conclusions from a lot of the information that she's presented elsewhere. She's showcasing kinda the main arguments that she makes in the book as a whole are being made in this chapter in particular. So you're not getting, I think I also posted the preface the very beginning of her book. It's not part of the assigned reading, but if you want to read it to kind of get a better understanding of what kind of research she did that went into this. You're also free to look at that. It should be up on Moodle two in the same file. So she is talking about social relationships between humans, so how people interact with each other that are mediated by technology. Yes, she does write her name with lowercase letters. If you're really curious about why it has a section on her website that explains that, but that's not a typo. She writes Dana Boyd, but lowercase letters. So that's why I've written it that way on my slides and in the syllabus a business, I just think about what you're reading this, what her main argument is about online socially interactions with the main thing is that she's trying to convey to her her audience about the way that the kids she's, she's writing about talk to each other online. The second piece is via different often him, Sherry Turkle from a different book. Her book is called Alone Together. Why we expect more from technology and less from each other. So she's still talking about social relationships here, but her main arguments in this chapter are not about relationships between people that are mediated by technology. They're about relationships between humans and technology. So how humans interact with technologies on a sort of social and emotional level. She topsoil mostly tested a few different technologies. But most of his chapters about for views, those little toys that sort of sharpen and make noises and have their own language that they use. She writes a lot about how people and helps children in particular interact with Furby. It's quite an interesting chapter. This is one of my favorite readings from the master, and these are both fairly accessible. They're not going to be difficult. Like the nightingale piece was there. Like parts of the winner piece may have been hurt. But the overall point that she's making hears about how she thinks relationships between humans and technologies have evolved. So keep an eye out for that. The point that she's making at the end of the chapter. But a change over time about sort of how humans relate to technology and a social and emotional way. So that's what you have for next Wednesday. Enjoy reading these. I will hang out for awhile. It's always that's on one question. Commends who I will address that. Otherwise, if you don't have questions, you're free to go. Enjoy your long weekends and I will see you next week. So question from Coby notion of you've already answered this, but regarding the reflection essay, do we need to have three? Are you okay?  
  
Are you okay? No, you don't need 333 arguments. Two is plenty for an essay of this length. I would say these are quite short pieces from No, you don't need three artifact. You should only have one central argument. You just have one sort of main argument that you're trying to convince the reader of, and sort of probably two, maybe three. But two is fine, sort of supporting reasons for that, for that argument that you are making. So no, you don't need to argue three different things. You should be arguing one main thing that I have a couple of reasons that back it up. But to two reasons, it's totally fine. Question.  
  
Can we used to Dave material for reflection? I think number one, yes. Yeah. Any anything from today or from any previous classes you can talk about in the first, first essay. And the same goes for any of the future essays, anything that we have talked about in the past, sort of before the Essay due date is fair game for you to talk about it for any of the future ones. So yeah, today's materials find Jeffrey. Yeah, we can totally talk about your essay during a specific appointment. Daniel, I don't know if you had the same question, but yeah, the easiest way to do that is to send me an email and list a few times when you're free. Lcms, Tarek. Okay. Yeah. Yeah.  
  
So Jefferson sent me an email. Tell me a few times that you're free public sometime tomorrow is going to be easiest for me. But yeah, we can we can talk about your ethics in particular. Okay. Yeah.  
  
Benjamin, go ahead. Elaborating on wards. Legislature, governments are producing privacy online. And then you said, when we talk about that in further lectures, and you said, it seems there hadn't been aborted yet. So in what way am I allowed to talk about privacy? Oh, okay. Yeah. No, we can if what you want to talk about is an idea, but it's sort of fundamentally related to what Leslie was already talking about then yeah, you can absolutely type write an essay that is about the ideas that lets it brought up. I just wanted to say that we have a whole we have a unit on privacy and big data that's coming up. A couple of weeks where we will expand more on, on those topics. But the idea that you want to respond to is something that Lauren flexing sag in the story about the worm, then you can absolutely talk about that. And I know I said last time that I was going to send you some other stuff and I just haven't had time to do it yet, but I will try and do that either tonight or tomorrow. Thank you very much. Another question.  
  
Yeah. Kind of like the arguments are expecting us to make. You expect us to follow kind of what somebody already thinks and just explain with our own examples? Or do you really expect us to make our own kind of arguments or explain our own way of thinking about something That's a good guess is some of the things I'd like to address and way to make sure I don't coincide with his argumentation. Yeah. Good. That that's a good question. I want to hear what you think about the ideas that we have talked about in class. So sometimes for some people, your own thoughts about class material might be that you do really agree with something that someone else wrote or that some idea that someone wrote really resonated with you? If that's the case, then yeah, you can write that that that that was the case and you can read, maybe give some additional examples or some additional supporting material that's not the same as what that author bro, that's one way to do this assignment, but you can also just give me a sort of your own thoughts on material that we've been talking about during class. Keeping in mind that these are not research essays and that I don't expect any of you to, to write the same kind of scholarship that we read for this course, right? The stuff that the assigned texts for the class are things that are written by professionals who spend months or years doing research for the stuff that they end up writing and they get peer reviewed and either very short essay assignments that you only have a few days to rate. So don't feel that you need this comprehensively disprove something that one of the people that we've bred for the class has written, it's really about you expressing your thoughts and expressing them in a clear and organized way. So that might be, yeah, this idea really resonated with me. And here are some other examples that backup what, what, what this author said. Or it might be that you sort of connection between something that we read in class and something else that you're familiar with that you want to elaborate on or something that you would like a connecting thread between two different texts that we read for class. Any of those would be appropriate ways to approach this essay assignment. That's super helpful. Thanks.  
  
And another question, unless you want to answer somebody else's first. Yeah, there's one really easy question to answer in the chat. We'll use marks if you only site from one article. No, absolutely not. Like I just said, these are not research assignments. They're really about you expressing ideas clearly and you responding to the course materials. So you can absolutely only cite one article from class and still get a great mark on this, on this essay because they're really not research-based papers. Okay, Benjamin, go ahead with your question. I was wondering what kind of audience should I be reading for sure, good writing for an informed audience? Or should I be writing for a layman? Oh, great question. I'm very happy that you're thinking enough about audience to ask me about it. Yeah.  
  
So your audience is well, okay. Practically speaking, your audience are that TAs for this class who are going to read and grade your particles. They are generally familiar with the content that we are talking about, but they don't sort of attend lectures and don't necessarily sort of follow up. They're not reading through the articles necessarily to the same degree of detail that you maybe are. So you can assume that they have a basic familiarity with social scientific concepts and the ideas that we are talking about in class. But you do need to sort of, you, you should explain in some way what you mean by the idea is that you are a site. So if you're talking about technological determinism, for example, you don't need to devote half your essay to explaining what that means, but you should sort of paraphrase a brief definition of it somehow. Okay.  
  
Okay. That makes sense. Good. Any other questions?