COSC130 - Tutorial 2

Question 1

10% chance to win
100$, double if win
What is expected gain
= 10$

Question 2

Anti malware 1
- Guaranteed loss of docs and 1million$
- Protects all computers
- Wipes all word and excel docs
- $1000 * 1000 computers = 1,000,000$

Anti malware 2 - Guaranteed loss of 10% of data + 200,000$
- 10% (100 computers) of systems will lose everything
- 90% of systems will be fine
- 2000$ * 100 computers = 200,000$

Anti malware 3 - Estimated loses, could be more could be less
- Every computer has a 10% chance of lose everything
- Every computer has a 90% systems will be fine
- Est 2000$ * 100 computers = 200,000$

A) Expected Utility Maximisation (Could be 3 is gamba is considered a better outcome)
- Anti malware 2 - The right action is the one that maximizes the aggregate utility or in this case, minimizes the aggregate disutility, being systems lost and financial penalty. So with this in mind Anti-Malware 2 effects the lowest number of systems, and has the lowest cost, an argument for 3 would be that it could lead to less disutility, but it is a gamble on probability as it could also lead to high systems loss and high financial penalty

B) The Maximin Rule (Originally had this as 2 but changed to 1 when assessing that 10% of people would loss 100% of there system was worst then no one losing everything and everyone losing only txt files)
- Anti malware 1 - The right action is the one that has the least disutility when assuming the worst of every situation, i.e, low probabilities are assumed to occur in their worst case. Due to cost of 1 being 1 million and no systems lost, and cost of two being 200 thousand dollars and 10% of people losing everything, and 3 of being guessed at 200k and 10% of systems lost with the worst being millions and every system lost, we choose 1 as no one loses everything.

C) Deontological Theory (originally was 2 but changed to 1 when re thinking it over)

- Anti malware 2 - If the act is morally wrong, no matter how low the probability, you do not select it, you choose the other outcome in the mixture of outcomes. In our case, we are dealing with paying 1 million and no one losing everything, 200k and 10% losing everything or potentially less than 200k but also potentially more than 200k and everyone losing everything, we gotta go with 1 as we are not choosing to destroy any one's systems.

D) Rights-Based Theory

- Anti Malware 1 - same as above, though slightly different, If someone has a moral right that a certain action not be performed then then that right extends to all outcomes in the mixture. Once again, We would be violating rights by choosing 2 or 3 and destroying someone's property.

E) Contractualism using MiniMax complaint Principle

- Anti malware 1 - As contractualism compares the strength of the individuals claims without aggregating them, meaning if one person was to lose their system, you don't take that option, you must function in a way that minimizes the strongest claim in the set of all claims when looking individually

F) Ex Ante Contractualism

- Compares complaints in terms of expected harm, this states that the outcome is weighted by the probability of its occurrence. Thus a 90% chance that that everything will be fine and no price to pay, would be less harm, then 1000$ paid and all txt files deleted, or 2000$ paid and everything wiped. Even though there is a 10% chance that everything would be wiped and 2000$ paid for malware 3, the 90% chance of being fine outweighs it.

Question 3

Anti malware 1 - Guaranteed loss of docs and 1million$

- Protects all computers
- Wipes all word and excel docs
- $1000 * 1000 computers = 1,000,000$

Anti malware 2 - Guaranteed loss of 10% of data + 200,000$

- 10% (100 computers) of systems will lose everything
- 90% of systems will be fine
- 20,000$ * 100 computers = 2,000,000$

Anti malware 3 - Estimated loses, could be more could be less

- Every computer has a 10% chance of lose everything
- Every computer has a 90% systems will be fine
- Est 2000$ * 100 computers = 2,000,000$

A) Expected Utility Maximisation

- Malware 1 - Maximizing the utility of everyone or the aggregate, or in this case, minimizes the disutility, meaning that only 1 million, and txt file loss, vs 2 million but total wipe is less, meaning MALWARE 1 is the choice

B) The Maximin Rule

- Anti malware 1 - This takes the worst case scenario and says don't do that, hence choice 3 is eliminated, next 10% of systems destroyed and 2 million, or only txt files and 1million… I think this leads to 1 again

C) Deontological Theory

- Morally it would be wrong to destroy anyone's system, “If it is morally prohibited to [perform a certain action, then this prohibition extends to all the mixtures in which this action is non zero.” Therefore 2 and 3 are out, leaving only 1, thought it may still be scene as morally wrong, it is less than both of those and less then not doing anything.

D) Rights-Based Theory

- This is the same as above in this scenario, anti malware 1 is the best choice I believe, as the right to not have you system destroyed extends from 2 to 3

E) Contractualism using MiniMax complaint Principle

- Anti malware 1 - as the 100% loss of system plus 20k of the individual far outweighs the 1k and txt only

F) Ex Ante Contractualism

- Anti malware 3 - even though the price is higher now, the 90% chance that nothing will happen to an individual is too high to not choose… I could be wrong on this though.

50% chance of attack
Effects 1000 customers
10% Require replacements worth 10,000$ per. (100 customers * 10,000$ = 1 million)
1% would suffer bodily harm costing 1 mil per, 10 million total
Patch possible to stop attack, cost 10 million

a) Expected Utility Maximisation
   For the aggregate, maximize utility, or minimize disutility
   Since there is a 50% chance of bodily harm to 10 people Plus 11 million in damages, vs a 50% chance of 10 million in a patch…. **I would say that the patch is by far the better option, since both are 50-50 weighted and the outcomes of one are far worse for the aggregate, vs the outcome for the other which is less financial and actually only on the company and not the aggregate.**

b) The Maximin rule
   The worst outcome is to assume and maximize utility for the aggregate, minimize disutility and take the less of the two outcomes.

   The attack would happen, 10 people would have bodily harm costing 10 million plus 1 million in replacing 100 devices

   Vs 10 million for the patch and that's it.

   This states we take the patch for 10milly as it is the less of the two

c) Deontological Theory
   Do unto others, etc ,etc, morally bound to make the right decision, duty bound to make the right decision, money doesn't matter because 10 people being hurt would prohibit us from not patching, so PATCH for 10milly

d) Rights-based theory
   Is similar to above, not patching would be breaking the rights of the users to not be bodily harmed so the patch would be used in this framework

e) Contractual Minimax Compliant principle
   By choosing the patch we would be not violating any moral obligation to the customers, whereas not patching would be. Furthermore, but the individual complaint from a customer would be at minimum, bodily harm, which could be avoided with the patch, everything else is monetary, so that claim is the highest, meaning you pay for the patch

f) Ex ante Contractual
   As above, it is very similar, the 50-50 chance is not high enough to gamble on bodily harm and device destruction, so you would opt for patching again here. Maybe if it was less than 10% chance, you would select no patch… maybe.

Question 5

Stealing

- Utilitarian - It is fine to plagiarize as long as you don't get caught as this provides the greatest utility to you?
- Virtue - It would be of bad faith and bad character to plagiarize, you should do things for the betterment of yourself, this would be seen as not doing that.
- Deontological - The action of stealing someone's work is morally and lawfully wrong, you wouldn't want someone stealing your work

Second attempt

- Virtue - stealing would be considered something that would not contribute to a good moral character, you would not be improving yourself by taking the shortcut of stealing. Would you want to be seen as someone who steals things? Your intentions matter in this framework and you would be stealing with bad intentions not good.
- Deontology - It is wrong to steal, therefore it is wrong to do this in the eyes of deontology
- Utilitarian - It is only wrong to steal, if what you are stealing affects the overall happiness from those you are stealing vs the happiness you would be receiving.. In the case of using chat gpt to plagiarize work for your assignments, technically chatgpt does not have emotion so therefore you would not be causing harm to who you stole from and only increasing happiness of your own leading to it being a fine ethical decision in the eyes of this framework

Cheating

- Utilitarian - You can finish faster, you can get more done, the result if not caught is far better then doing it the “Right” way
- Virtue - Bad character, bad intent
- Deontological - The action of cheating would be considered morally wrong

Second attempt

- Virtue - Same as above, bad intentions, not living a moral life, not honing a virtuous habit, it would be acting in the opposite. Do you wanna be seen as a cheater?
- Deontology - It is wrong to cheat, so this would be wrong in the eyes of deontology
- Utilitarian - One could argue that you cheating by the use of chatgpt is not actually causing the negative emotions of others who do not cheat…. Simply that is caused by the work itself and you not doing it and cheating instead is adding to the happiness of yourself and therefore the overall aggregate… therefore it would not be seen as unethical in the eyes of this framework

Lie

- Utilitarian - Again, more time free to play video games and watch anime…. Therefore it would not be seen as lazy, or maybe im confused.
- Virtue - Neither good nor bad, just lazy, not bettering ones self, improving your self, probably seen as a negative

- Deontological - If everyone did this then we would not have a productive society

Second attempt

- Virtue - same as above, do you want to be seen as a liar? Normally lying has bad intentions, no honing your virtue, etc
- Deontology - It is wrong to lie so it would be seen as wrong in the eyes of deontology
- Utilitarian - If the lie did not direct hurt anyone then it would be fine to do so, as no one would suffer and you would be happier as a consequence of noting having to put the work in for the assignment BUT, lets say you get a job on the false pretenses that you know what you are doing due to your degree… Then you could argue that you as a doctor now potentially hurting people is causing more harm to a greater number of people vs your happiness for taking shortcuts. There for it would also be wrong in the eyes of utilitariasm