Lista de perguntas a respeito do texto: Will Robots Inherit the Earth?

1. O texto de Minsky comenta que o desgaste ou envelhecimento biológico causa o aparecimento de falhas no funcionamento do nosso sistema, nos levando à morte. Apesar de haver alguns mecanismos de "correção de erros" que podem ocorrer devido aos inúmeros processos químicos que ocorrem nos organismos, estes processos não são infalíveis. Ele diz que: *"To repair defects on larger scales, a body would need some sort of catalogue that specified which types of cells should be located where. In computer programs it is easy to install such redundancy. Many computers maintain unused copies of their most critical "system" programs, and routinely check their integrity."*
Porque não existem seres vivos com mecanismos de recuperação de erros similar?

2. Porque um transplante de cérebro não funcionaria?

3. Minsky escreve: *"Why is our wisdom so limited? Is it because we do not have the time to learn very much, or that we lack enough capacity? Is it because, as in popular legend, we use only a fraction of our brains? Could better education help?"* Se o homem vivesse por mais tempo ele poderia ficar mais inteligente? Porque? E quanto a nossa capacidade de memória? Ela é realmente limitada?

4. Comente a afirmação: *"The more we learn about our brains, the more ways we will find to improve them. Each brain has hundreds of specialized regions. We know only a little about what each one does -- but as soon as we find out how any one part works, researchers will try to devise ways to extend that organ's capacity. They will also conceive of entirely new abilities that biology has never provided. As these inventions accumulate, we'll try to connect them to our brains -- perhaps through millions of microscopic electrodes inserted into the great nerve-bundle called the corpus callosum, the largest data-bus in the brain. With further advances, no part of the brain will be out of bounds for attaching new accessories. In the end, we will find ways to replace every part of the body and brain--and thus repair all the defects and flaws that make our lives so brief. Needless to say, in doing so, we'll be making ourselves into machines."* Que novo modulo você acrescentaria ao cérebro humano? Porque?

5. Num parágrafo Minsky afirma: *"Almost all the knowledge that we learn is embodied in various networks inside our brains. These networks consist of huge numbers of tiny nerve cells, and even larger numbers of smaller structures called synapses, which control how signals jump from one nerve cell to another. To make a replacement of your brain, we would need to know something about how each of your synapses relates to the two cells it bridges. We would also have to know how each of those structures responds to the various electric fields, hormones, neurotransmitters, nutrients and other chemicals that are active in its*

neighborhood. Your brain contains trillions of synapses, so this is no small requirement."

Entretanto logo no parágrafo seguinte, ele diz: "*Fortunately, we would not need to know every minute detail. If that were so, our brains wouldn't work in the first place. In biological organisms, generally each system has evolved to be insensitive to most details of what goes on in the smaller subsystems on which it depends. Therefore, to copy a functional brain, it should suffice to replicate just enough of the function of each part to produce its important effects on other parts.*"

Você concorda com Minsky de que não seria necessário reproduzir fielmente as estruturas cerebrais, mas apenas as sua funcionalidade?

6. Qual a posição de Minsky a respeito da afirmação de que por computadores não terem "consciência" ou "espírito", então eles não poderão nunca pensar como nós.

7. Qual a opinião de Minsky sobre o "pensar". O que é pensar? Máquinas pensam? O que é entendimento?

8. Comente a afirmação: "*In order to think effectively, you need multiple processes to help you describe, predict, explain, abstract, and plan what your mind should do next. The reason we can think so well is not because we house mysterious spark-like talents and gifts, but because we employ societies of agencies that work in concert to keep us from getting stuck. When we discover how these societies work, we can put them to inside computers too. Then if one procedure in a program gets stuck, another might suggest an alternative approach. If you saw a machine do things like that, you'd certainly think it was conscious.*"