Senior Dinner on Tuesday, March 10th

Our annual dinner for senior mathematics and computer science majors will be held on **Tuesday, March 10th** at 5:30 in the Heather Room. Our dinner has always been a fun event with lots of good food, laughter, and reminiscing. So, please make sure you attend. If you've not yet responded to the invitation sent to you, please contact Jackie Gage (SAC 224) **immediately**.

Math and C.S. Senior Presentations

Senior presentations begin next week on **Tuesday** and **Thursday** at **4:00** in SAC 113:

| March 10: | 4:00 | *Katherine Maiville* |
	4:30	*Marcus Malling*
	5:30	**SENIOR DINNER**
March 12:	4:30	*Peter Nicaj*
	5:00	*Jared Anderson*
March 17:	4:00	*Andrew Borzi*
	4:30	*Pete Carravallah*
March 19:	4:00	*Leighton Collingwood*
	4:30	*Mason Ippel*
March 24:	4:30	*Cheyenne Hansen*
March 31:		Senior Thesis Presentation:
	4:00	*Brianne Giddis*
April 7:	4:00	*Nathan Haut*

Please attend and support our seniors!

The Math Club is seeking volunteers!

On Friday, March 20, more than 55 high school students will be competing in the Gratiot County Math Competition on campus. Volunteers are needed any time from 8am-2pm. Please contact Kasey Jones at jones1km@alma.edu to volunteer. Kasey will also sign for volunteer hour credit!

The Turing Machine

In 1935, mathematician and computer scientist Alan Turing was first introduced to the Entscheidungsproblem, or the decision problem. This problem asks if it is possible for an algorithm to exist that would take in any statement, and for a given set of axioms say if it was universally valid. It was from this problem, and from his early childhood fascination with machines that Turing first began to hobble together the idea of the Turing Machine.
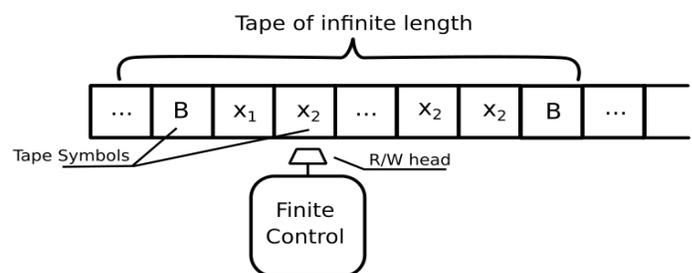
The machine itself is an abstract idea that is easy enough to understand. It acts on an infinitely long string of cells, each cell containing a symbol. The machine uses its head in order to travel along the string, and scan each of the cells. Using a finite set of instructions, the head is able to change the symbol of the cell either by replacing it, erasing it, or doing nothing. Once the head has finished with a cell, it

can then travel along to the next cell as specified by the set of instructions. Once at this new cell, the head can carry on as described earlier or it can stop completely having completed the set of instructions.
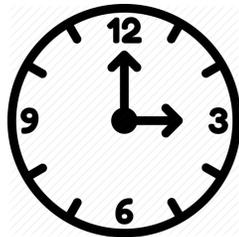
With this new idea in hand Turing was able to simplify the decision problem into a problem related to his Turing Machine. Is there a set of instructions that will decide if any Turing Machine stops or not, when asked about the existence of an algorithm capable of solving the decision problem? Using earlier work done on the problem by Alonzo Church, along with the idea of the Turing Machine being equivalent to an algorithm, Turing was able to prove that the answer to the decision problem was uncomputable.

The idea of the Turing Machine was among some of the earliest theoretical models for computers. Countless ideas in theoretical computer science has used Turing Machines due to its simple, yet powerful nature. Turing Machines helped mathematicians to better understand the emerging idea of computation, and with the evolution of the Turing Machine we have been able to cross the road into modern day computation. *~ Brandon Hart*

Solution to Previous Puzzle

The previous puzzle is still unsolved! There is now a **$5.00** prize for the 1ˢᵗ student who submits a correct solution to **Dr. Molina.**

The minute hand on a clock is 8 inches long and the hour hand is 6 inches long. How fast is the distance between the tips of the hands changing at three o'clock?