**CORC 1312 Review Sheet for Final**

* AI – understand the four types, strengths and weaknesses and type of problem best suited for
	+ expert systems and fuzzy logic
	+ neural nets (layers),
	+ genetic algorithms (selection,crossover and mutation)
	+ intelligent agents(shopping bots, personal agents, Monitoring-and surveillance agents and data-mining agents)
* Writing a loop in Javascript

<script language ="Javascript">

 for (i=1; i<=5;i++){

 document.write("<br/>loop number " + i);

 }

 </script>

<script language ="Javascript">

 document.write("<br/>Loop program begins");

 loopEnd = prompt("Enter how many lines to print","");

 loopEnd = parseInt(loopEnd);

 for (i=1;i<=loopEnd; i++){

 document.write("<br/>loop number " + i);

 }

 document.write("<br/>Loop program ends");

 </script>

* Infinite loops – some possible ways this can occur
	+ Spell loopEnd as loopend
	+ Omit increment such as i++
	+ Use wrong code to end loop i**>=** loopEnd instead of i**<=**loopEnd
	+ Omit initial value of loop i.e., omit i=1;
* Turing machine
	+ Components
	+ Tracing an example given an input tape and rules
	+ Church-Turing Thesis– if an algorithm exists to solve a problem, it can be done on a Turing machine
* Problem classification
	+ Class P – feasible in polynomial time with one processor
	+ Exponential/Factorial – infeasible, Travelling Salesman, Knapsack
	+ Class NP - feasible in polynomial time with multiple processors
	+ Class NP complete – solve one, solve them all
	+ Unsolvable – Halting Problem, proof by contradiction
* Encryption
	+ Symmetric/private key
	+ Assymetric/public key
	+ Digital signature – encrypt with private, decrypt with public
	+ Digital certificates, verification authority (Verisign)
	+ PGP – session key, message encoded with session key, session key encrypted with public key. public key encryption
* Security
	+ Identity theft
	+ Phishing, Spear phishing, Pharming
	+ Virus, worm, Trojan Horse
	+ Hacker attacks
	+ Firewall
	+ Spyware
	+ Security for wireless devices
	+ laws related to online security of personal data
		- Online Privacy Protection Act
		- Children's Online Privacy Protection