**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