**CMP 333 - Artificial intelligence**

**Project 2**

**Group 3**

Q1) Structures Puzzle

Q2) Map Coloring

Q3) Cryptarithmetic puzzle with carries

Program in file “./Program Files/Cryptarithmetic with Carry.pl”

All Results:

**As** = [9, 5, 6, 7],  
**Bs** = [1, 0, 8, 5],  
**Cs** = [1, 0, 6, 5, 2]

Q4) Magic triangle

Program in file “./Program Files/magicTriangle.pl”

Given the format: [A,B,C,D,E,F], where:

Timeline

Description automatically generated

All Results:

?- magicTriangle(9,Circles).

**Circles** = [1, 5, 3, 4, 2, 6]

?- magicTriangle(10,Circles).

**Circles** = [1, 4, 5, 2, 3, 6]

?- magicTriangle(11,Circles),

**Circles** = [2, 3, 6, 1, 4, 5]

?- magicTriangle(12,Circles).

**Circles** = [4, 2, 6, 1, 5, 3]

Q5) Interview scheduling

Program in file “./Program Files/Interview Scheduling.pl”

All Results:

People=[A,B,C,D,E]

**People** = [2, 4, 3, 1, 5]

**People** = [2, 4, 5, 1, 3]

**People** = [3, 2, 5, 1, 4]

**People** = [3, 4, 1, 2, 5]

Results with additional Constraint Don must follow right after Cam:

**People** = [3, 4, 1, 2, 5]

Q6) Zebra story

Program in file “./Program Files/Zebra.pl”

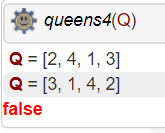
**zebra(Ans).**

**Ans** = [1, 1]

Q7) 4-queens problem

Program in file “./Program Files/4Queens.pl”

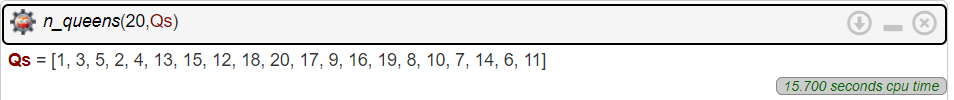
All Results:



Q8) N-queens problem

Program in file “./Program Files/NQueens.pl”

Result for n=20:



Largest Result in under 10 mins:

My poor laptop keeps exceeding time limit and stack limit