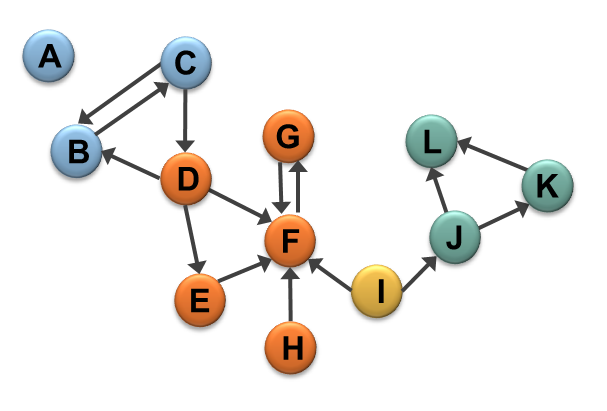
# MMC6936, Lab 2: Due February 2 (saturday), 2019

In this assignment you will have to demonstrate your understanding of network formats and representation. The tasks you will have to perform involve the following two small networks:

**Figure 1: Network 1** (actor-actor adjacency network)



1. Describe **Network 1** in an edge list format:

|  |  |
| --- | --- |
| A | - |
| B |  |
| C |  |
| C |  |
| D |  |
| D |  |
| D |  |
| E |  |
| F |  |
| G |  |
| H |  |
| I |  |
| I |  |
| J |  |
| J |  |
| K |  |
| L | - |

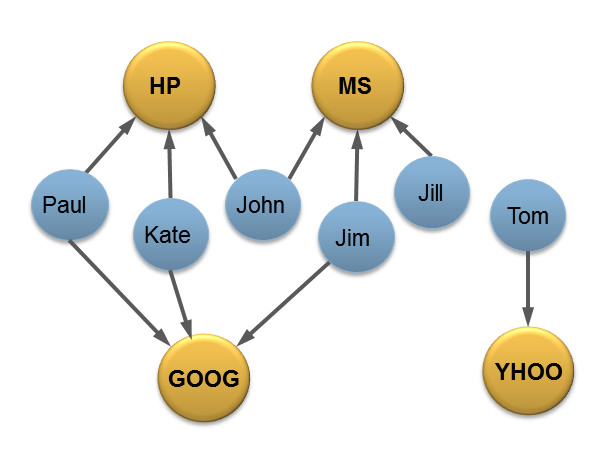
1. Describe **Network 1** in a node list format:

|  |  |  |  |
| --- | --- | --- | --- |
| A |  |  |  |
| B |  |  |  |
| C |  |  |  |
| D |  |  |  |
| E |  |  |  |
| F |  |  |  |
| G |  |  |  |
| H |  |  |  |
| I |  |  |  |
| J |  |  |  |
| K |  |  |  |
| L |  |  |  |

1. Describe **Network 1** in a matrix format:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G | H | I | J | K | L |
| A |  |  |  |  |  |  |  |  |  |  |  |  |
| B |  |  |  |  |  |  |  |  |  |  |  |  |
| C |  |  |  |  |  |  |  |  |  |  |  |  |
| D |  |  |  |  |  |  |  |  |  |  |  |  |
| E |  |  |  |  |  |  |  |  |  |  |  |  |
| F |  |  |  |  |  |  |  |  |  |  |  |  |
| G |  |  |  |  |  |  |  |  |  |  |  |  |
| H |  |  |  |  |  |  |  |  |  |  |  |  |
| I |  |  |  |  |  |  |  |  |  |  |  |  |
| J |  |  |  |  |  |  |  |  |  |  |  |  |
| K |  |  |  |  |  |  |  |  |  |  |  |  |
| L |  |  |  |  |  |  |  |  |  |  |  |  |

**Figure 2:** **Network 2** (actor-event affiliation network)



1. Describe **Network 2** in an edge list format:

|  |  |
| --- | --- |
| PAUL | HP |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Describe **Network 2** in a node list format:

|  |  |  |
| --- | --- | --- |
| PAUL |  |  |
| KATE |  |  |
| JOHN |  |  |
| JIM |  |  |
| JILL |  |  |
| TOM |  |  |

1. Describe **Network 2** in a matrix format:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | HP | MS | GOOG | YHOO |
| PAUL |  |  |  |  |
| KATE |  |  |  |  |
| JOHN |  |  |  |  |
| JIM |  |  |  |  |
| JILL |  |  |  |  |
| TOM |  |  |  |  |

1. If the matrix representing “Network 2” is called “M”, calculate the following:
   1. M transposed (M’)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | PAUL | KATE | JOHN | JIM | JILL | TOM |
| HP |  |  |  |  |  |  |
| MS |  |  |  |  |  |  |
| GOOG |  |  |  |  |  |  |
| YHOO |  |  |  |  |  |  |

* 1. M x M’ (matrix multiplication of M and M transposed)

*For those who need help with matrix multiplication* <https://www.purplemath.com/modules/mtrxmult.htm>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Paul | Kate | John | Jim | Jill | Tom |
| Paul |  |  |  |  |  |  |
| Kate |  |  |  |  |  |  |
| John |  |  |  |  |  |  |
| Jim |  |  |  |  |  |  |
| Jill |  |  |  |  |  |  |
| Tom |  |  |  |  |  |  |

* 1. M’ x M (matrix multiplication of M transposed and M)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | HP | MS | GOOG | YHOO |
| HP |  |  |  |  |
| MS |  |  |  |  |
| GOOG |  |  |  |  |
| YHOO |  |  |  |  |