The Game of

Ada

Setup: The game is for 2-10 players with experience in CS1120. To begin, players will need to print playing cards. Using this template:_____ players should create the following cards using cardstock paper:

- Draw 2 (3)
- Skip (3)
- Reverse (3)
- Debugging card-where you can play any car (wild card) (3)
- Expression (3)
- PrimitiveExpression (3)
- NameExpression (3)
- ApplicationExpression (3)
- ProcedureExpression (3)
- Empty (3)
- Number cards (2)
- True (2)
- False (2)
- PrimitiveProcedure (choose 2 of your favorite i.e. +) (3)
- Name (choose your favorite computer scientists i.e. "Ada") (3)
- Expression MoreExpressions (3)
- Lambda (Parameters) Expression (3)
- Parameters (3)

Once the cards are printed, cut them out to create your deck. You are ready to play. Every player starts with seven cards, and they are dealt face down. The rest of the cards are placed in a pile face down. Next to the pile a space should be designated for a discard pile. The top card should be placed in the discard pile, and the game begins!

Game Play: The first player (normally the player with the least experience) views his/her cards and tries to match the card in the discard pile to make a surface form based off of Scheme Grammar. If the player has no matches they can either play an action card (Draw 2, Skip, Reverse) or must draw a card. Players may draw one card and then play it in the discard pile if applicable, or keep the card and pass to the next player. Once a surface form is completed, in next turn the player must start a new surface form. The game continues until a player has one card left. The moment a player has just one card they

must yell ADA. If they are caught by another player, the player must draw two new cards. Once a player has no cards remaining the game is over and he/she wins!
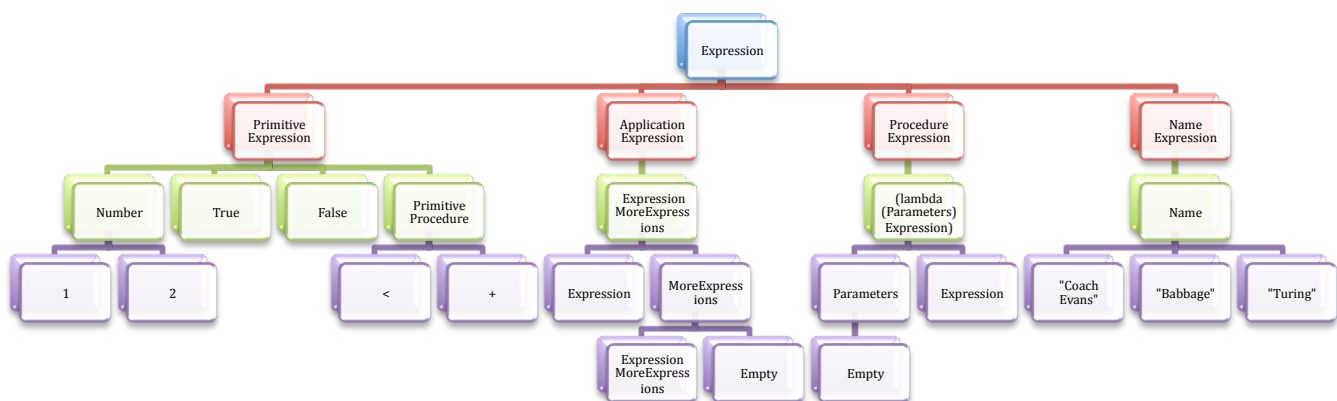
Cards: "Reverse" – If going clockwise, switch to counterclockwise or vice versa.
"Skip" – When a player places this card, the next player has to skip their turn.
"Draw Two" – When a person places this card, the next player will have to pick up two cards.
"Debugging" – This is essentially the equivalent to a wild card. A player can put down this card when they can't play anything to build on the current card in the discard pile. This allows them to put down any other card of their choice, and the next player must then play off of the new card.

Acceptable moves: If you want to check your surface forms, and make sure your card moves match the Scheme Grammar, use the following chart:

Expression
- Primitive Expression
  - Number
    - 1
    - 2
  - True
  - False
  - Primitive Procedure
    - <
    - +
- Application Expression
  - Expression MoreExpressions
    - Expression
    - MoreExpressions
      - Expression MoreExpressions
      - Empty
- Procedure Expression
  - (lambda (Parameters) Expression)
    - Parameters
      - Empty
    - Expression
- Name Expression
  - Name
    - "Coach Evans"
    - "Babbage"
    - "Turing"

Expression

Expression

Skip

Skip

Debug

Debug

Draw Two

Draw Two

Reverse

Draw Two

Primitive Expression

Primitive Expression

Name Expression	Procedure Expr	Primitive Proc
Name Expression	Procedure Expr	Primitive Proc

Application Expr	Number	Expr MoreExpr
Application Expr	Number	Expr MoreExpr

MoreExpr	Null	Ada
MoreExpr	Null	Ada

Parameters	Ada	Ada
Parameters	Ada	Ada

Name	Two	True
Name	Two	True

One	False	<
One	False	<

+

+
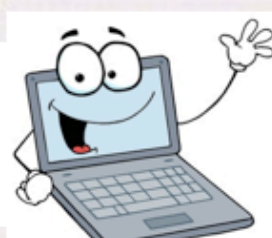
Coach Evans

Coach Evans

Turing

Turing

Babbage

Babbage

Lambda (P) Expr

Lambda (P) Expr

Parameters

Parameters