**1. Sudoku**

1. **Name**: Sudoku
2. **Type/Genre**:

Logic-based, combinatorial number-placement puzzle

1. **Descriptions**:

Sudoku mainly appeared in newspapers in the late 19th century under the name of “Number place”. The puzzle maker will provide a partially completed grid on which it has a unique solution. The number of the items in the halfway completed grid will depend on its difficulty. The higher the difficulty, the lower the number of the items will be provided in the puzzle.

French newspapers featured some variations of the puzzle. Because of the Japanese puzzle company Nikoli, modern sudoku become mainstream in 1986 bearing the name, “sudoku”, meaning “single number”. Sudoku first appeared in a US newspaper in 2004. On the same year, The Times UK, with the help of Wayne Gould, they devised a computer program so that they can rapidly produce distinct puzzles.

1. **How to play**:

The objective in this puzzle is to fill a 9x9 grid so that each column, each row and each of the 3x3 sub-grids that compose the whole grid or puzzle contains all of the digits from 1 to 9. The solver will be given a partially completed grid.

1. **List of features and capabilities**:
2. Timer
3. Number choices
4. Checker
5. **Other names**:
6. Number place
7. *Suji wa dokushin ni kagir*u (translated as “the digits must be single”)
8. **Variation and brief description and differences**:
   1. Variations of grid sizes

Sudoku puzzles can be 4x4 grids with 2x2 regions, Logi-5 that has 5x5 grids with petomino regions, World Puzzle Championship has featured 6x6 grid and 7x7 grid, Dodeka Sudoku has 12x12 grid, Number Place Challenger has 16x16 grid, Sudoku the Giant has 25x25 grid and the Sudoku-zilla has 100x100 grid puzzle.

b. Imposing additional constraints

Some variants add limits on its rule. The most common is to require the numbers in the main diagonals of the grid to also be unique.

C. Killer Sudoku

The Killer Sudoku combines elements of Sudoku and Kakuro.

D. Alphabetical Sudoku

**2**. **Klondike (Solitaire)**

1. **Name**: Klondike (Solitaire)
2. **Type/Genre**:

Patience card game.

1. **Descriptions**:

Also known as Patience, it can be played by a single player or a head-to-head fashion with the one who has most points will be winner. It involves dealing cards from a shuffled deck into a prescribed arrangement on a tabletop. The main object of the game is the four blocks of cards should be filled, going from ace to king in each suit. Cards can be taken from the layout.

Solitaire’s origin is most likely German or Scandinavian. It became popular in France in the early 19th Century and later, it reached England and America. The earliest known recording of the game occurred in 1783 in a German game anthology. Solitaire was then mentioned on several literatures. Lady Adelaide Codogan was attributed for having the first collection of patience card games in the English language, published in about 1870.

1. **How to Play**:

Overall, the main purpose of this game involves manipulating a layout of cards with a goal of arranging them in the foundation in increasing order. With a shuffled deck into a prescribed arrangement on a tabletop, the player will attempt to reorder the deck by suit and rank, through the several moves of transferring cards from one place to another, with restrictions. The four foundations are built up by suit from Ace up to King while the tableau piles can be built by alternating colors in decreasing order. 79% of the game is theoretically winnable, but people do not win 79% of the game because of a wrong move somewhere, causing them to lose early. There will be a scoring on the game, based on the player’s move in the game.

1. **List of Features and Capabilities**:

a. Timer

b. Scoring

c. Best player of all time

d. Multiplayer, the winner with most score and short time will be the winner.

1. **Other names**:

a. Solitaire

b. Seven up

c. Sevens

1. **Variation and brief description and differences**:

a. Agnes

The stock is dealt in batches of seven on reserve piles and every one is available.

b. Easthaven (Aces Up)

Twenty-one cards are dealt into seven piles of three, two face-down and one face-up. Only a King or any sequence starting King can fill the space. Seven cards are dealt to the tableau when the play goes to a standstill. The game may include two to three card decks.

**3. Tetris**

1. **Name**: Tetris
2. **Type/Genre**:

Tile-matching puzzle video game

1. **Descriptions**:

Tetris was originally designed and programmed by Russian game designer Alexey Pajitnov. Released on June 6, 1984, he derived its name from the Greek numerical prefix tetra and tennis, the developer’s favorite sport. It was the first entertainment software to be exported from the USSR to the US. It was published by Spectrum HoloByte for Commodore 64 and IBM PC. The Tetris games is a popular use of tetrominoes. The game is available for almost every video game console and computer operating systems. It became hugely successful when it was established for the handheld version for the Game boy in 1989.

1. **How to Play**:

Tetriminos are game pieces shaped like tetrominoes, a geometric shapes composed of four square blocks each. Tetriminos with random sequence will then fall down the playing field. The main objective of the game is to manipulate those by moving sideways or to rotate it to match the existing tetriminos on the playing field, creating a horizontal line without gaps. The horizontal line will then disappear. With a certain number of lines are cleared, the game will then enter a new level. The higher the level, the faster the tetriminos will fall. The game will end if the Tetriminos reach the top or there is no space for the falling Tetriminos. The scoring formula of the majority of Tetris products is that the more difficult line clears, the more points will be awarded.

1. **List of Features and Capabilities:**

a. Multiplayer

b. Scoring

c. List of all-time high score

d. Level-up when the desired number of lines is reach

1. **Other names**:

a. Wlltris

b. Hatris

1. **Variation and brief description and differences**:

Tetris has many existing versions since the 1980s. Modern Tetris games focused on its pace, rather than endurance. Other Tetris version incorporates the elements of popular TV series, movies or culture (e.g. Pokemon). Other variation also includes some modern elements to connect it other people, adding an online interaction while playing it (e.g. Facebook’s Tetris Battle). But the overall rules and objective of Tetris game remains the same.

**4. Pong**

1. **Name**: Pong
2. **Type/Genre**:

Arcade Video Game; sports arcade video game

1. **Descriptions**:

It is a tennis sports game that feature a two-dimensional graphics. It is one of the first video games to reach mainstream popularity. Manufactured by Atari Inc., Allan Alcorn invented the game as a training exercise assigned to him. Pong quickly became successful, making it the first commercially successful arcade video game machine. Soon after its release, several companies began producing games that copied Pong’s gameplay. The company released some sequels by adding some features on the gameplay.

After producing the game, Computer Space, Nolan Bushnell decided to produce more games by building a company, Atari Inc. Bushnell hired Allan Alcorn into their company, that will later develop Pong.

1. **How to Play**:

A two-dimensional sports game that stimulates table tennis, the player will control a paddle by moving it vertically across the screen. The player can either compete against a computer-controlled opponent or another player controlling the second paddle. Players use the paddles to hit a ball back and forth until the ball reaches the other end and the opponent fails to return the ball. The first one to reach eleven points will win.

1. **List of Features and Capabilities**:

a. Scoring

b. Multiplayer

c. Tournament among other players

1. **Other names**:

a. Ultra Pong

b. Super Pong

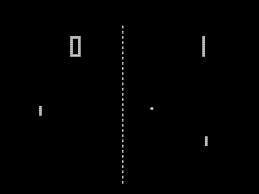
c. Pin-Pong

1. **Variation and brief description and differences**:

Atari made some numerous remake of the game, adding some new gameplay elements such as allowing four players to compete in pairs (Quadrapong) and incorporating it to popular culture like in the character, Snoopy (Snoopy Pong). Atari also released Breakout, a variation of Pong where the object of the game is to remove the bricks from the wall by hitting them.

1. **Picture/screenshots of the game**:

a. PONG



**5. GNU Chess**

1. **Name**: GNU Chess
2. **Type/Genre**:

Mind sport board game

1. **Descriptions**:

Just like the traditional chess game, it is a software chess engine which plays a full game of chess against either a human being or computer program. GNU Chess is free software but licensed under the terms of the GNU General Public License V. 3. It is one of the oldest software made for Unix-based systems. Since then, it has been ported to other platforms. Stuart Cracraft written the first version of GNU Chess. Started in 1984, it became one of the first parts of GNU. Since then, many programmers enhanced the program.

1. **How to Play**:

GNU Chess plays a full game of chess. Chess is a two-player board game, with each player have 16 pieces. Each piece has their own unique move. The main goal is to checkmate the opponent’s king. A player can voluntary resign if one loses too much materials. There is also instances that draw will be declared.

1. **List of Features and Capabilities**:

a. Timer

b. Tournament

c. Multiplayer

d. Showing the next move of the chosen piece.

1. **Other names**:

none

1. **Variation and brief description and differences**:

a. Chess with Different Starting Positions

In these variants, starting position differs, but overall gameplay, it is still the same with the traditional chess. E.g. Chess960, Displacement Chess, Moab Random Chess, Pre-Chess, Transcendental Chess, Upside-down Chess

b. Chess with Different Forces

It uses different numbers of pieces for White and Black. It only uses standard chess pieces. E.g. Dunsany’s chess, Endgame Chess, Handicap chess, Legal’s Game, Peasants’ Revolt Weak

c. Chess with Unusual Rules

In these variants, there are certain rules that have been added to add a twist to the game. It is unusual rules, compared to the traditional chess game. E.g. Knightmate, Losing Chess, Legan Chess, Racing Kings, Progressive Chess

d. Chess with Different Boards

Different board is used, but the rules and pieces are the same in the traditional chess. It can be smaller, larger or non-square. E.g. Active Chess, Chess Attack, Masonic Chess, Lord Loss Chess, Infinite Chess