

## A PROTOTYPE DESIGNED ON ALGORITHM BASED ALGOWIN21NINJAS\*

BY

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### ABSTRACT

*This research paper presents a program, based application played between the computer and a user. Technology plays the foremost role in recognition of power of Math's, Statistics, Probability and Algorithms not only for computer systems but also in communication and recording. It is vital to observe and give a correct power of probability and no one can win against Math's. So, the most recent development in Math's is yet to be developed in future and has a lot of scope in future using our methodology, the so called 21 stickers program.*

### KEYWORDS

Algorithms, Probability, Statistics, Methodology, Communication, Application.

### I. INTRODUCTION

Tired of playing math but love the challenge? Time for something different. ALGOWIN21NINJAS provides endless hours of enjoyment and is easy to learn, even for those who hate learning math! A strategy game is a form of puzzle that engages the players' logical thinking and strategic planning skills. It usually involves hidden information, set objectives, multiple players, and competition. The first computer strategy game to be widely available was Space war! For the computer PDP-1, a two players game created in 1962. Since then, many other computer games have been created that feature strategy as the main aspect of play which includes puzzle solving and skillful thought as significant factors. With joy of playing these games we came up with ALGOWIN21NINJAS developed on c++ platform, which is completely based on mathematical algorithm where always computer wins.

ALGOWINNINJAS is a game for those who believe math is challenging yet incredible. ALGOWIN21NINGJA will engage you in an exciting battle of intelligence and wit against the computer, while looking at the great outdoors and admiring a beautiful piece of art! We're a

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game that challenges you to think. It will not let you down and will keep you challenged every time.

## II. CONCEPT USED

A gaming application based on C++ program for a program being played between the computer and a user. Your program should ensure that the computer always wins. Rules for the game are as follows:

- There are 21 matchsticks.
- The computer asks the player to pick 1, 2, 3 or 4 matchsticks.
- After the person picks, the computer does its picking.
- Whoever is forced to pick up the last matchstick loses the game.
- The trick is computers pick is always 5 minus the pick of the user. For example, if computers pick is variable  $c$  and user pick is stored in variable  $p$ , then:

| No | Types of Attacks | Tools     |
|----|------------------|-----------|
| 1. | If statement     | Condition |
| 2. | If else          | Condition |
| 3. | Nested if else   | Condition |
| 4. | For loop         | Condition |
| 5. | Do while         | Condition |
| 6. | If else ladder   | Condition |
| 7. | Formula          | Running   |

Fig.1: Types of tools.

## III. TOOLS USED AND ANALYSIS

Note: Break; breaks out of the loop or terminates the execution of the loop. Continue, skips execution of all the code after it in the loop and goes for the next iteration of the loop.

Note: We have 1 as the condition in while loop to make sure the while loop keeps executing until a break statement is occurred inside the loop to terminate the execution of the loop. While is considered as an infinite loop (unless we have some ways to break out of the loop programmatically).

#### **IV. CATEGORIES OF ALGORITHMS**

- Non-modifying sequence operations.  
(e.g. find-if, count, search)
- Modifying sequence operations.  
(e.g. replace, remove, reverse)
- Sorting  
(e.g. short, stable-sort, partial-sort)
- Heap (e.g. make-heap, push-heap)
- Min/max (e.g. min, max)

**Note:** The logic behind this program is very simple as there were no numerical system when mankind came into existence. The old civilization people would use the so-called sticks that is 123 and forth stick crossed and it was considered as one unit. In our program we are using the same old logic of the old civilization people.

The logic is very simple if the user takes one the computer will take four. If the user takes 4 computer takes 1. Means in computer completes the number in numerical value as the unit 5. And Eureka the computer is the winner all the time. It's not just a program it's one program which targets 7 main resources of the future till 2035. It is giving a probability that is used in stats its showing us power of math's it is giving the head or tail of two reasons it is able to detect graft it is able to show algorithms it is able to show that the biggest brain on the earth is the computer.

#### **V. ALOGRITHMS WORKING?**

- Computer work via input and output.
- They take the input and apply each step of the algorithm to that information to generate an output.
- Input leads to steps and questions that need handling in order.
- Each section of the flowchart is completed, the generated result is the output.

#### **VI. IMPLANTATION**

- The ultimate power of math's.
- Can we have identified and specified.
- Probability can be determined.
- Statistical analysis can be done.

- Data analysis working.

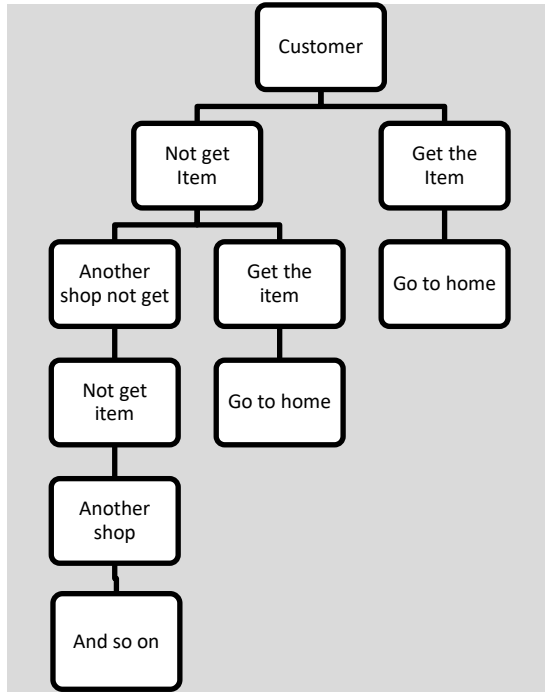


Fig 1.2: Flowchart

**VII. FLOW OF USER AND COMPUTER**

|   | User | Computer | User | Computer | User | Computer | WIN      |
|---|------|----------|------|----------|------|----------|----------|
| 1 | 3    | 2        | 2    | 3        | 4    | 1        | Computer |
| 2 | 4    | 1        | 4    | 1        | 4    | 1        | Computer |
| 3 | 3    | 2        | 1    | 4        | 2    | 3        | Computer |

Fig 1.3

**VIII. CONCLUSION**

ALGOWIN21NINJAS is a game for those who believe math is challenging yet incredible. ALGOWIN21NINJAS will engage you in an exciting battle of intelligence and wit against the computer, while looking at the great outdoors and admiring a beautiful piece of art! We're a

game that challenges you to think. It will not let you down and will keep you challenged every time.

ALGOWIN21NINJA is a collection of 5 mathematical games designed to improve your spatial reasoning. Play it and impress your friends! Take a break and have fun with ALGOWIN21NINJA, the best game for those who enjoy numbers and logic! ALGOWIN21NINJA brings the magic of numbers to your beautiful phone, while you enjoy the outdoors and relax.

A simple and easy game of numbers that'll have you engrossed for hours. ALGOWIN21NINJA combines tranquil scenery with a fun, invigorating math puzzle that will give you endless hours of fun.

## REFERENCES

- I. Burgin, Mark (2004). Super-Recursive Algorithms. Springer. ISBN 978-0-387-95569-8.
- II. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein. Introduction to Algorithms. McGraw-Hill, 2001.
- III. Harel, David; Feldman, Yishai (2004). Algorithmics: The Spirit of Computing. Addison-Wesley. ISBN 978-0-321-11784-7.
- IV. Knuth, Donald E. (2000). Selected Papers on Analysis of Algorithms. Stanford, California: Center for the Study of Language and Information.