B.M.S COLLEGE OF ENGINEERING BENGALURU
Autonomous Institute, Affiliated to VTU

SPC AAT Report on

THE SUDDEN DEATH QUIZ

Submitted in partial fulfilment of the requirements for AAT

Bachelor of Engineering
in
Artificial Intelligence and Machine Learning

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B.M.S COLLEGE OF ENGINEERING

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

DECLARATION

We, Archit Agrawal and Aditya Agarwal, students of 1st Semester, B.E, Department of AI-ML, BMS College of Engineering, Bangalore, hereby declare that, this AAT Project entitled " **THE SUDDEN DEATH QUIZ** " has been carried out in the Department of AI-ML, BMS College of Engineering, Bangalore, during the academic semester Sep 2025 – Jan 2026. We also declare that to the best of our knowledge and belief, the AAT Project report is not part of any other report by any other students.

Student Name **Student Signature**

1. **ADITYA AGARWAL**
2. **ARCHIT AGRAWAL**

BMS COLLEGE OF ENGINEERING

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

CERTIFICATE

This is to certify that the AAT Project titled "**THE SUDDEN DEATH QUIZ**" has been carried out by **Aditya Agarwal** (1BM25AI258-T) and **Archit Agrawal** (1BM25AI295-T) during the academic year 2025-2026.

Signature of the Faculty in Charge

Table of Contents

1. INTRODUCTION

1. Introduction

    - The '**The Sudden Death Quiz**' is an interactive console-based computer program that uses C as its programming language. It has been created with an intention to check out a user's overall knowledge on a number of subjects like Computer Science, Mythology, Sports, and History. The main idea here is to apply basic concepts pertaining to programming, such as functions, conditional statements, and control structures, into practice.

2. Project Overview The project consists of two different levels of difficulty.

- Level 1 (Qualifying Round): The user picks a particular subject area they want. They get 5 questions and have to get at least 3 points to proceed. It emphasizes user input and knowledge pertaining to the subject area.

- Level 2 - Sudden Death: It is a very competitive "Master Level" with a combination of general knowledge questions. It uses a concept of "Sudden Death" wherein an incorrectly answered question will end the game.

3. Technical Scope The project illustrates the efficiency of C language programming for logical operations. Technical specifications include:

- Modular Programming: Employing a user-defined function (ask a question) to eliminate repeated coding.

- Control Structures: Implementation of switch-case for controlling menu operations and if-else statements for making decisions.

- Jump Statements: Effective utilisation of "goto" statements to deal with the 'Game Over' situation efficiently at Level 2.

2. ALGORITHM

Step 1: Start

Step 2: Initialize variables s1 = 0, s2 = 0, topic.

Step 3: Define a function ask_question(q, options, correct_opt) that:

- Displays the question and options.
- Reads user choice.
- If choice == correct_opt, return 1.
- Else, return 0.

Step 4: Display "Welcome to Quiz Game - Level 1".

Step 5: Display Topic Menu (1. C Programming, 2. Mythology, 3. Sports, 4. Indian History).

Step 6: Read topic.

Step 7: Use a switch control structure based on topic:

- **Case 1:** Call ask_question for 5 C-Programming questions. Add returns to s1. Break.
- **Case 2:** Call ask_question for 5 Mythology questions. Add returns to s1. Break.
- **Case 3:** Call ask_question for 5 Sports questions. Add returns to s1. Break.
- **Case 4:** Call ask_question for 5 History questions. Add returns to s1. Break.
- **Default:** Display "Invalid Topic". Go to Step 12.

Step 8: Display s1. If s1 < 3, Display "Better Luck Next Time" and Go to Step 12.

Step 9: Else (if s1 >= 3), Display "Level 2 Start".

Step 10: Repeat for each of the 20 Level-2 questions:

- Call ask_question.
- If result is 1 (True), increment s2 (s2 = s2 + 1) and continue to next question.
- If result is 0 (False), Go to Step 12 (Result).

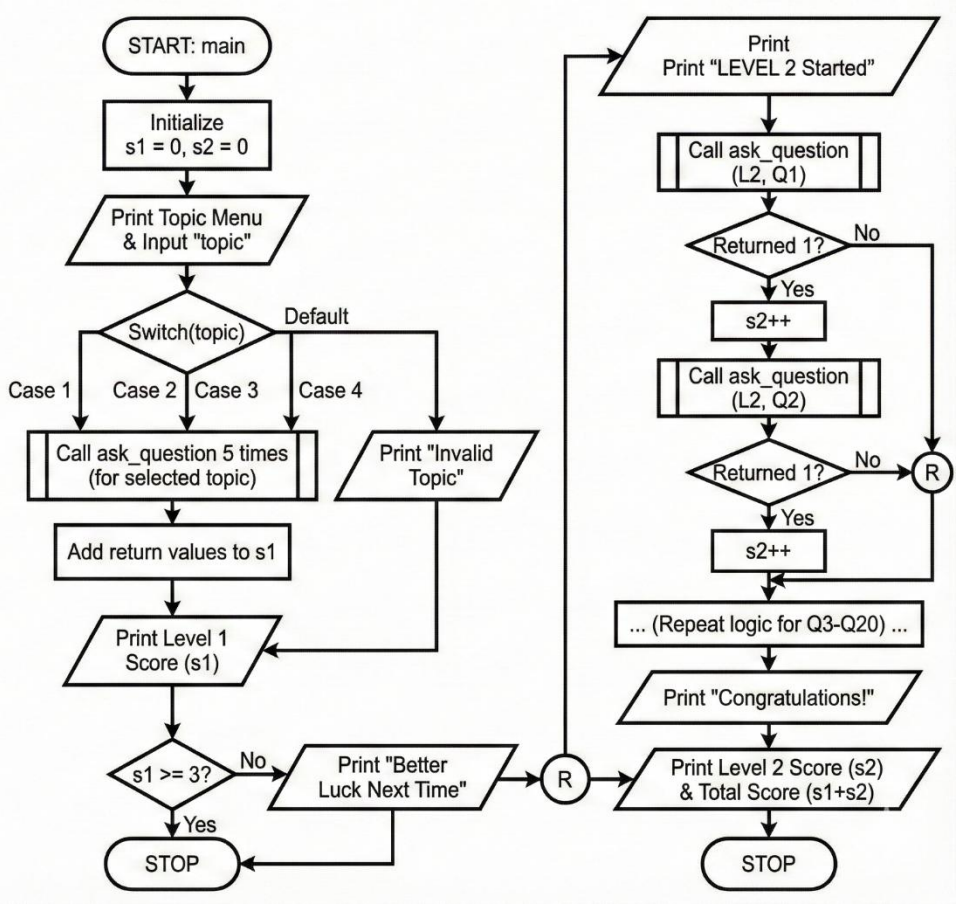
Step 11: If all 20 questions are answered correctly, Display "Congratulations".

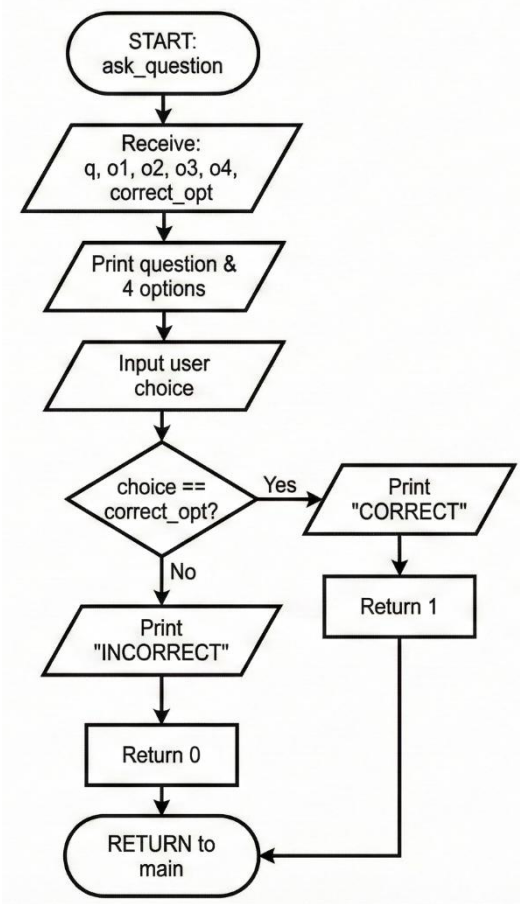
Step 12: Label: Result

- If s1 >= 3, Display s2 and Total Score = s1 + s2.

Step 13: Stop

3. FLOWCHART


START: main
Initialize
s1 = 0, s2 = 0
Print Topic Menu
& Input "topic"
Switch(topic)
Default
Case 1
Case 2
Case 3
Case 4
Call ask_question 5 times
(for selected topic)
Print "Invalid
Topic"
Add return values to s1
Print Level 1
Score (s1)
s1 >= 3?
No
Print "Better
Luck Next Time"
Yes
STOP
R
Print
Print "LEVEL 2 Started"
Call ask_question
(L2, Q1)
Returned 1?
No
Yes
s2++
Call ask_question
(L2, Q2)
Returned 1?
No
R
Yes
s2++
... (Repeat logic for Q3-Q20) ...
Print "Congratulations!"
Print Level 2 Score (s2)
& Total Score (s1+s2)
STOP


START:
ask_question
Receive:
q, o1, o2, o3, o4,
correct_opt
Print question &
4 options
Input user
choice
choice ==
correct_opt?
Yes
Print
"CORRECT"
Return 1
No
Print
"INCORRECT"
Return 0
RETURN to
main

4. SOURCE CODE

```
#include <stdio.h>

/* * Function: ask_question
 * ----------------------
 * Displays a question and four options, accepts user input,
 * and checks if the answer is correct.
 * * returns: 1 if the answer is correct, 0 if incorrect.
 */
int ask_question(char *question, char *opt1, char *opt2, char *opt3, char *opt4, int correct_opt) {
    int choice;

    // Print the question and options
    printf("\n%s\n", question);
    printf("1. %s\n", opt1);
    printf("2. %s\n", opt2);
    printf("3. %s\n", opt3);
    printf("4. %s\n", opt4);

    printf("Enter Option (1-4): ");
    scanf("%d", &choice);

    // Check answer
    if (choice == correct_opt) {
        printf(">> You are CORRECT!\n");
        return 1;
    } else {
        printf(">> You are INCORRECT!\n");
        return 0;
```

```
    }
}

int main() {
    int topic;
    int level1_score = 0;
    int level2_score = 0;

    // --- GAME START ---
    printf("==================================\n");
    printf("      WELCOME TO THE QUIZ       \n");
    printf("==================================\n");
    printf("\n--- LEVEL 1 ---\n");
    printf("Please Select A Topic:\n");
    printf("1. C Programming\n2. Mythology\n3. Sports\n4. Indian History\n");
    printf("Enter the Topic (1-4): ");
    scanf("%d", &topic);

    // --- LEVEL 1 LOGIC ---
    switch (topic) {
        case 1:
            printf("\n[ Selected: C Programming ]\n");
            level1_score += ask_question("1) Who is the father of C language?", "Steve Jobs", "James Gosling", "Dennis Ritchie", "Rasmus Lerdorf", 3);
            level1_score += ask_question("2) Which is NOT a valid C variable name?", "int number", "float rate", "int variable_count", "int $main", 4);
            level1_score += ask_question("3) All keywords in C are in?", "LowerCase", "UpperCase", "CamelCase", "None", 1);
            level1_score += ask_question("4) Which is a valid C expression?", "int my_num = 100,000", "int my_num = 100000", "int my num = 1000", "int $my_num = 10000", 2);
            level1_score += ask_question("5) Purpose of #include <stdio.h>?", "Standard input/output", "User functions", "Global variables", "Comments", 1);
```

```
        break;

    case 2:
        printf("\n[ Selected: Mythology ]\n");
        level1_score += ask_question("1) Vehicle of Lord Vishnu?", "Peacock", "Garuda", "Swan", "Owl", 2);
        level1_score += ask_question("2) Rama's battle was against?", "Ravana", "Duryodhana", "Hiranyakashipu", "Mahishasura", 1);
        level1_score += ask_question("3) Weapon of Lord Vishnu?", "Trishula", "Sudarshana Chakra", "Vajra", "Parashu", 2);
        level1_score += ask_question("4) Author of Mahabharatha?", "Valmiki", "Bharadwaja", "Vishwamitra", "Ved Vyasa", 4);
        level1_score += ask_question("5) Battle of Mahabharat location?", "Kurukshetra", "Panipat", "Ambala", "Varanasi", 1);
        break;

    case 3:
        printf("\n[ Selected: Sports ]\n");
        level1_score += ask_question("1) Who is the god of cricket?", "Virat Kohli", "Sachin Tendulkar", "Jacques Kallis", "Ricky Ponting", 2);
        level1_score += ask_question("2) Players in a football team?", "7", "9", "11", "13", 3);
        level1_score += ask_question("3) Olympic rings represent?", "Continents", "Sports", "Countries", "Values", 1);
        level1_score += ask_question("4) NOT an Olympic sport?", "Basketball", "Polo", "Gymnastics", "Swimming", 2);
        level1_score += ask_question("5) Most FIFA World Cups?", "Germany", "Brazil", "Argentina", "Italy", 2);
        break;

    case 4:
        printf("\n[ Selected: Indian History ]\n");
        level1_score += ask_question("1) Civilization in Indus Valley?", "Harappan", "Vedic", "Maurya", "Gupta", 1);
```

```
        level1_score += ask_question("2) Founder of Nanda dynasty?", "Chandragupta", "Ashoka", "Mahapadmananda", "Kanishka", 3);
        level1_score += ask_question("3) First to start 1857 revolt?", "Mangal Pandey", "Rani Lakshmibai", "Mahatma Gandhi", "Birsa Munda", 1);
        level1_score += ask_question("4) Capital of Maratha Empire?", "Pune", "Raigad", "Satara", "Kolhapur", 2);
        level1_score += ask_question("5) Battle of Haldighati year?", "1578", "1598", "1576", "1520", 3);
        break;

    default:
        printf("Invalid Topic Selected. Exiting game.\n");
        return 1;
  }

  printf("\n--------------------------------\n");
  printf("Your Level 1 Score: %d out of 5\n", level1_score);
  printf("--------------------------------\n");

  // --- CHECK FOR LEVEL 2 ELIGIBILITY ---
  // User needs at least 3 points to proceed
  if (level1_score >= 3) {
    printf("\n\n=== CONGRATULATIONS! LEVEL 2 UNLOCKED ===\n");
    printf("(Sudden Death Mode: One wrong answer and the game ends!)\n");

    // We use 'goto result' here to immediately end the game if a question is missed.
    // This is a "Sudden Death" mechanic.

    if (ask_question("1) Who forgot his powers due to a curse?", "Shiva", "Rama", "Hanuman", "Parshuram", 3)) level2_score++;
    else goto result;
```

```
if (ask_question("2) Goddess who rides a lion?", "Ganesh", "Durga", "Hanuman", "Rama", 2)) level2_score++;

else goto result;


if (ask_question("3) Who gave fire to humans?", "Orpheus", "Ares", "Poseidon", "Prometheus", 4)) level2_score++;

else goto result;


if (ask_question("4) King of Greek gods?", "Hades", "Zeus", "Apollo", "Poseidon", 2)) level2_score++;

else goto result;


if (ask_question("5) Sport with 'birdie' and 'eagle'?", "Tennis", "Golf", "Bowling", "Cricket", 2)) level2_score++;

else goto result;


if (ask_question("6) Wimbledon host?", "England", "Australia", "USA", "France", 1)) level2_score++;

else goto result;


if (ask_question("7) Most Olympic gold medals?", "Usain Bolt", "Larisa Latynina", "Carl Lewis", "Michael Phelps", 4)) level2_score++;

else goto result;


if (ask_question("8) Length of football match?", "60 min", "45 min", "90 min", "120 min", 3)) level2_score++;

else goto result;


if (ask_question("9) National sport of Japan?", "Karate", "Sumo", "Judo", "Baseball", 2)) level2_score++;

else goto result;
```

```
if (ask_question("10) First Maurya Emperor?", "Ashoka", "Chandragupta", "Bindusara", "Chanakya", 2)) level2_score++;

else goto result;


if (ask_question("11) First Mughal Emperor?", "Akbar", "Humayun", "Babur", "Aurangzeb", 3)) level2_score++;

else goto result;


if (ask_question("12) Who built Ashoka Pillars?", "Ashoka", "Chandragupta", "Samudragupta", "Pratap", 1)) level2_score++;

else goto result;


if (ask_question("13) First PM of India?", "Mountbatten", "Patel", "Prasad", "Nehru", 4)) level2_score++;

else goto result;


if (ask_question("14) Last Viceroy of India?", "Mountbatten", "Wavell", "Canning", "Rajagopalachari", 1)) level2_score++;

else goto result;


if (ask_question("15) C language developed in?", "1977", "1972", "1971", "1973", 2)) level2_score++;

else goto result;


if (ask_question("16) Company where C was made?", "Bell Labs", "Microsoft", "Stanford", "IBM", 1)) level2_score++;

else goto result;


if (ask_question("17) C file extension?", ".dft", ".c++", ".c", ".o", 3)) level2_score++;

else goto result;


if (ask_question("18) What does 'C' stand for?", "Compiler", "Central", "Computer", "Nothing (Successor to B)", 4)) level2_score++;
```

```
        else goto result;

        if (ask_question("19) First function in C?", "printf", "main()", "pow", "sqrt", 2))
level2_score++;
        else goto result;

        if (ask_question("20) Symbol to end statements?", "_", ";", "%", ",", 2)) {
            level2_score++;
            printf("\n**************************************************\n");
            printf(" AMAZING! You answered ALL questions correctly! \n");
            printf("**************************************************\n");
        }

    } else {
        printf("You need 3 or more points to unlock Level 2. Better luck next time!\n");
    }

// The 'result' label acts as the exit point for the Sudden Death mode
result:
    if (level1_score >= 3) {
        printf("\n================ RESULT ================\n");
        printf("Level 2 Score: %d\n", level2_score);
        printf("GRAND TOTAL:   %d / 25\n", level1_score + level2_score);
        printf("========================================\n");
    }

    return 0;
}
```

5. RESULTS

==========

WELCOME TO THE QUIZ

==========

--- LEVEL 1 ---

Please Select A Topic:

1. C Programming

2. Mythology

3. Sports

4. Indian History

Enter the Topic (1-4): 1

[Selected: C Programming]

1) Who is the father of C language?

1. Steve Jobs

2. James Gosling

3. Dennis Ritchie

4. Rasmus Lerdorf

Enter Option (1-4): 3

>> You are CORRECT!

2) Which is NOT a valid C variable name?

1. int number

2. float rate

3. int variable_count

4. int $main

Enter Option (1-4): 4

>> You are CORRECT!

3) All keywords in C are in?

1. LowerCase

2. UpperCase

3. CamelCase

4. None

Enter Option (1-4): 1

>> You are CORRECT!

4) Which is a valid C expression?

1. int my_num = 100,000

2. int my_num = 100000

3. int my num = 1000

4. int $my_num = 10000

Enter Option (1-4): 2

>> You are CORRECT!

5) Purpose of #include <stdio.h>?

1. Standard input/output

2. User functions

3. Global variables

4. Comments

Enter Option (1-4): 1

>> You are CORRECT!

Your Level 1 Score: 5 out of 5

=== CONGRATULATIONS! LEVEL 2 UNLOCKED ===

(Sudden Death Mode: One wrong answer and the game ends!)

1) Who forgot his powers due to a curse?

1. Shiva

2. Rama

3. Hanuman

4. Parshuram

Enter Option (1-4): 3

>> You are CORRECT!

2) Goddess who rides a lion?

1. Ganesh

2. Durga

3. Hanuman

4. Rama

Enter Option (1-4): 2

>> You are CORRECT!

3) Who gave fire to humans?

1. Orpheus

2. Ares

3. Poseidon

4. Prometheus

Enter Option (1-4): 4

>> You are CORRECT!

4) King of Greek gods?

1. Hades

2. Zeus

3. Apollo

4. Poseidon

Enter Option (1-4): 2

>> You are CORRECT!

5) Sport with 'birdie' and 'eagle'?

1. Tennis

2. Golf

3. Bowling

4. Cricket

Enter Option (1-4): 2

>> You are CORRECT!

6) Wimbledon host?

1. England

2. Australia

3. USA

4. France

Enter Option (1-4): 1

>> You are CORRECT!

7) Most Olympic gold medals?

1. Usain Bolt

2. Larisa Latynina

3. Carl Lewis

4. Michael Phelps

Enter Option (1-4): 4

>> You are CORRECT!

8) Length of football match?

1. 60 min

2. 45 min

3. 90 min

4. 120 min

Enter Option (1-4): 3

>> You are CORRECT!

9) National sport of Japan?

1. Karate

2. Sumo

3. Judo

4. Baseball

Enter Option (1-4): 2

>> You are CORRECT!

10) First Maurya Emperor?

1. Ashoka

2. Chandragupta

3. Bindusara

4. Chanakya

Enter Option (1-4): 2

>> You are CORRECT!

11) First Mughal Emperor?

1. Akbar

2. Humayun

3. Babur

4. Aurangzeb

Enter Option (1-4): 3

>> You are CORRECT!

12) Who built Ashoka Pillars?

1. Ashoka

2. Chandragupta

3. Samudragupta

4. Pratap

Enter Option (1-4): 1

>> You are CORRECT!

13) First PM of India?

1. Mountbatten

2. Patel

3. Prasad

4. Nehru

Enter Option (1-4): 4

>> You are CORRECT!

14) Last Viceroy of India?

1. Mountbatten

2. Wavell

3. Canning

4. Rajagopalachari

Enter Option (1-4): 1

>> You are CORRECT!

15) C language developed in?

1. 1977

2. 1972

3. 1971

4. 1973

Enter Option (1-4): 2

>> You are CORRECT!

16) Company where C was made?

1. Bell Labs

2. Microsoft

3. Stanford

4. IBM

Enter Option (1-4): 1

>> You are CORRECT!

17) C file extension?

1. .dft

2. .c++

3. .c

4. .o

Enter Option (1-4): 3

>> You are CORRECT!

18) What does 'C' stand for?

1. Compiler

2. Central

3. Computer

4. Nothing (Successor to B)

Enter Option (1-4): 4

>> You are CORRECT!

19) First function in C?

1. printf

2. main()

3. pow

4. sqrt

Enter Option (1-4): 2

>> You are CORRECT!

20) Symbol to end statements?

1. _

2. ;

3. %

4. ,

Enter Option (1-4): 2

>> You are CORRECT!

****

AMAZING! You answered ALL questions correctly!

****

==========RESULT==========

Level 2 Score: 20

GRAND TOTAL: 25 / 25

==========

6. REFERENCES

- Text books: Schildt, Herbert. "C the complete reference." (2021), 4th Edition.
- AI Assistance: Google Gemini
- Web Resources: **https://www.google.com/**
- Introduction to C programming (SIES College)
- Basics Of C Programming For Beginners In Easiest Way" (Slideshare)
- FreeCodeCamp -https://www.freecodecamp.org/
- Apna College -https://www.youtube.com/watch?v=irqbmMNs2Bo