

**Kendriya Vidyalaya No. 1AFS Darbhanga**

**2022-2023**

**Computer Science project**

**Quiz Application**

**Submitted To: Submitted By:**

**Abhijeet Singh Gureniya 1) Harsh Narayan Jha**

**Roll No: 09**

**2) Rishabh Bhaskar**

**Roll No: 23**

**3) Vaibhav Kumar Mishra**

**Roll No: 38**

**Certificate**

This is to certify that **Harsh Narayan Jha, Sakshi and Vaibhav Kumar Mishra**, students of class **XII** have successfully completed the computer science project on the topic **A Quiz Application** under the guidance of **Abhijeet Singh Gureniya** during the academic year 2022-2023 in the partial fulfilment of Computer Science Practical Examination conducted by CBSE, New Delhi.

**Internal Examiner**:

**External Examiner**:

**Principal**

**Acknowledgement**

I would like to express a deep sense of gratitude to Abhijeet Sir for guiding me through the course of the project.

I would also like to express my sincere thanks to **Mrs. Sarin Kazi Vice Principal, KV Sevoke Road** for his constant motivation which helped me in completion of the project with great ease.

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**Introduction**

In this technological era, everything is just one click away. So why not quizzes be the same! Everyone likes quizzes, and a varieties of question types and difficulty levels. Therefore, in this Computer Science project, we have coded a multifunctional quiz application (with no GUI, for now). We have seen many python based quiz programs, which store/update all the question locally in the json format or in a SQL database. But we have gone one level further and used an online API (Application Programming Interface). It is an online service where people (or code) can send HTTP requests, and some data is returned, on the basis of the request parameters. We are using an API called OpenTDB (<https://opentdb.com/>). It is community maintained Question database with an API. It can accept up to four required parameters, the amount of questions, the question category, difficulty level and type (Multiple Choice, True/False or both). Then the code will send a HTTP GET request to the API using the python’s requests package (https://pypi.org/project/requests/). Then the code parses the returned json data, builds up the question structure and starts the question asking loop.

We have also included a pointing system. The system is as follows: 1 point is awarded for each correct answer, with 0, 1, or 2 points added based on difficulty level (easy, medium or hard respectively) and 0 points for wrong answer. Then the universal score (comparable score) is got by multiplying it by 100.

**BUILT-IN MODULES:**

**random**

**html**

**time**

**PROJECT MODULES:**

**requests**

**SOURCE CODE**

try:

import requests

except ImportError:

raise ImportError("Please Install the 'requests' package and try again")

from random import shuffle

from html import unescape

from time import sleep

print("Welcome to our Quiz Program") #Welcome

print("It will ask you your preferences for the questions and then the quiz will start")

print("There is no time limit")

print()

categories = {"General Knowlegde": 9,

"Entertainment: Books": 10,

"Entertainment: Film": 11,

"Entertainemnet: Music": 12,

"Entertainement: Television": 14,

"Entertainment: Video Games": 15,

"Entertainement: Board Games": 16,

"Science and Nature": 17,

"Science: Computers": 18,

"Science: Mathematics": 19,

"Mythology": 20,

"Sports": 21,

"Geography": 22,

"History": 23,

"Politics": 24,

"Art": 25,

"Celebrities": 26,

"Animals": 27,

"Vehicals": 28,

"Entertainement: Comics": 29,

"Science: Gadgets": 30,

"Entertainment: Japanese Anime and Manga": 31,

"Entertainment: Cartoon and Animations": 32,

}

difficulties = {"Easy": "easy", "Medium": "medium", "Hard": "hard"}

diff\_rev = {v: k for k, v in difficulties.items()}

types = {"Multiple Choice": "multiple", "True/False": "boolean"}

types\_rev = {v: k for k, v in types.items()}

amount = input("How many questions do you want? (max 50, press enter to accept the default value of 10): ")

if amount.isnumeric():

if int(amount) > 50 or int(amount) < 1:

raise ValueError("Minimum 1 and Maximum 50 questions")

else:

amount = int(amount)

elif not amount:

amount = 10

else:

raise ValueError(f"Required a number > 0 and < 50, got {amount}")

# print(amount, type(amount))

print("Please Choose a category:")

for \_ in categories:

print(f"\t{\_} ({categories[\_]})")

cat = input("\nEnter the desired category id (or press enter the choose all): ")

if cat.isnumeric():

if int(cat) not in categories.values():

raise ValueError("Kindly check the id you entered")

else:

cat = int(cat)

elif not cat:

cat = None

else:

raise ValueError(f"Required an id, got {cat}")

# print(cat)

diff = input("Choose a Difficulty\n1. Easy\n2. Medium\n3. Hard\n(Enter number or press enter for all): ")

if diff.isnumeric():

if diff not in tuple("123"):

raise ValueError("Required one of 1, 2, or 3")

else:

diff = list(difficulties.values())[int(diff)-1]

elif not diff: diff = None

else:

raise ValueError(f"Required a number, got {diff}")

print("Choose a question Type")

tp = input("1. Multiple Choice\n2. True/False\n(enter number or press enter for both): ")

if tp.isnumeric():

if tp not in tuple("12"):

raise ValueError("Required one of 1 and 2")

else:

tp = list(types.values())[int(tp)-1]

elif not tp: tp = None

else:

raise ValueError(f"Required a number, got {tp}")

# print(amount, cat, diff, tp)

url = f"https://opentdb.com/api.php?amount={amount}"

if cat:

url += f"&category={cat}"

if diff:

url += f"&difficulty={diff}"

if tp:

url += f"&type={tp}"

#url = f"https://opentdb.com/api.php?amount={amount}&category={cat}&difficulty={diff}&type={tp}"

# print(url)

print("Contacting API...")

response = requests.get(url)

# print(response.json())

print()

data = response.json()

if data['response\_code'] != 0:

print("API Error")

exit()

points = 0

for i, r in enumerate(data['results'], 1):

print(f"[{r['category']}, Difficulty {diff\_rev[r['difficulty']]}, {types\_rev[r['type']]}]")

print(f"Q{i}. {unescape(r['question'])}")

opts = [r['correct\_answer'], \*r['incorrect\_answers']]

shuffle(opts)

for j, o in enumerate(opts, 1):

print(f"{j}. {unescape(o)}")

opt = input("Choose the correct option: ")

if opt.isnumeric():

if int(opt) in range(1, len(opts)+1):

if opts[int(opt)-1] == r['correct\_answer']:

print("Wow! Correct Answer\n")

points += 1

if r['difficulty'] == 'easy': points += 0

elif r['difficulty'] == 'medium': points += 1

elif r['difficulty'] == 'hard': points += 2

sleep(1)

continue

print("Oh no! Wrong Answer")

print(f"Correct Answer is: \'{unescape(r['correct\_answer'])}\'")

print()

sleep(2)

print(f"You got {points} points for {amount} questions!")

print(f"You Universal score is {round(points/amount \* 100, 2)}")

print()

**SCREENSHOTS**







