KENDRIYA VIDYALAYA NO. 1 AFS DARBHANGA
2022-2023

COMPUTER SCIENCE PROJECT

Quiz Application

Submitted To:
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 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.

I extent my sincere gratitude to my parents, and my friends for their timely help and support for completion of this project.

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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

```python
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,
```

```python
                         "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():
```

```python
            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)
```

```python
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']]
```

```python
        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()
```
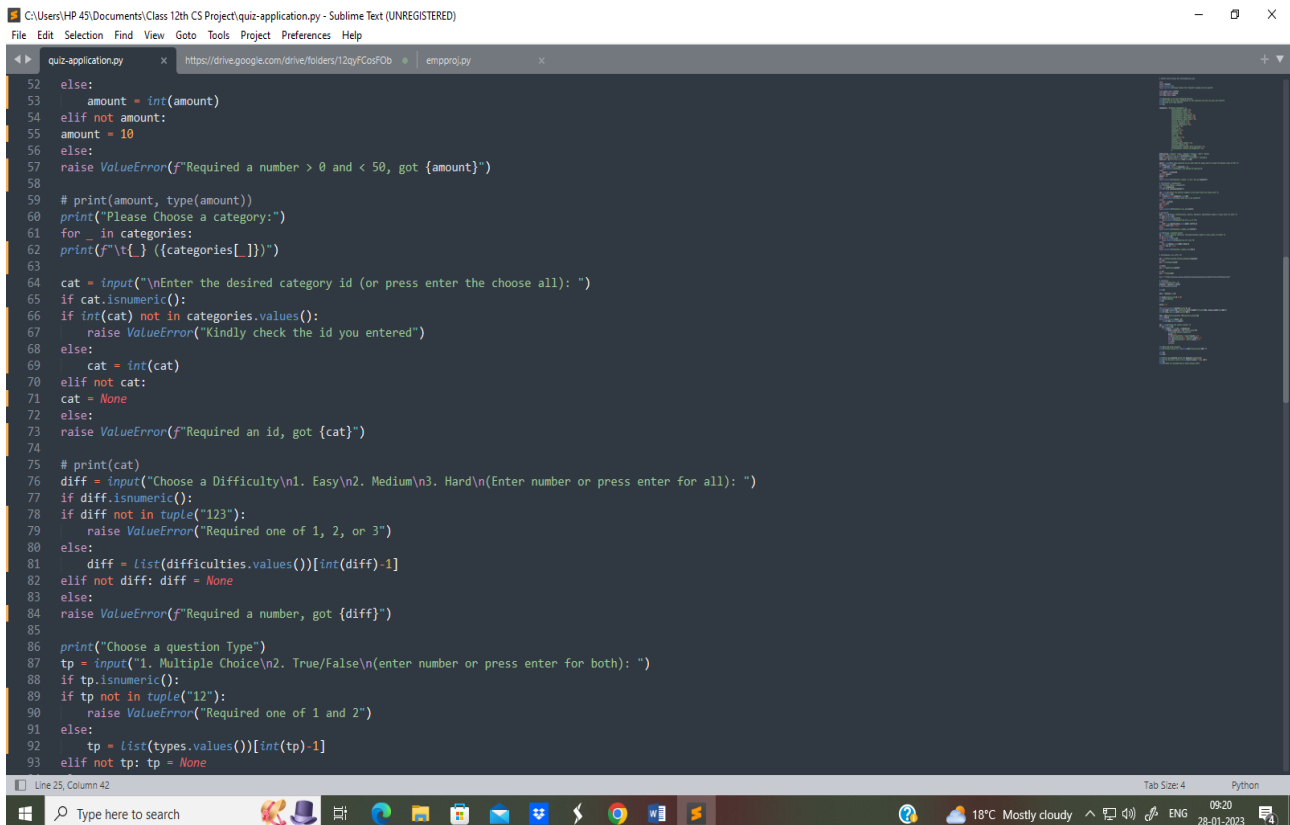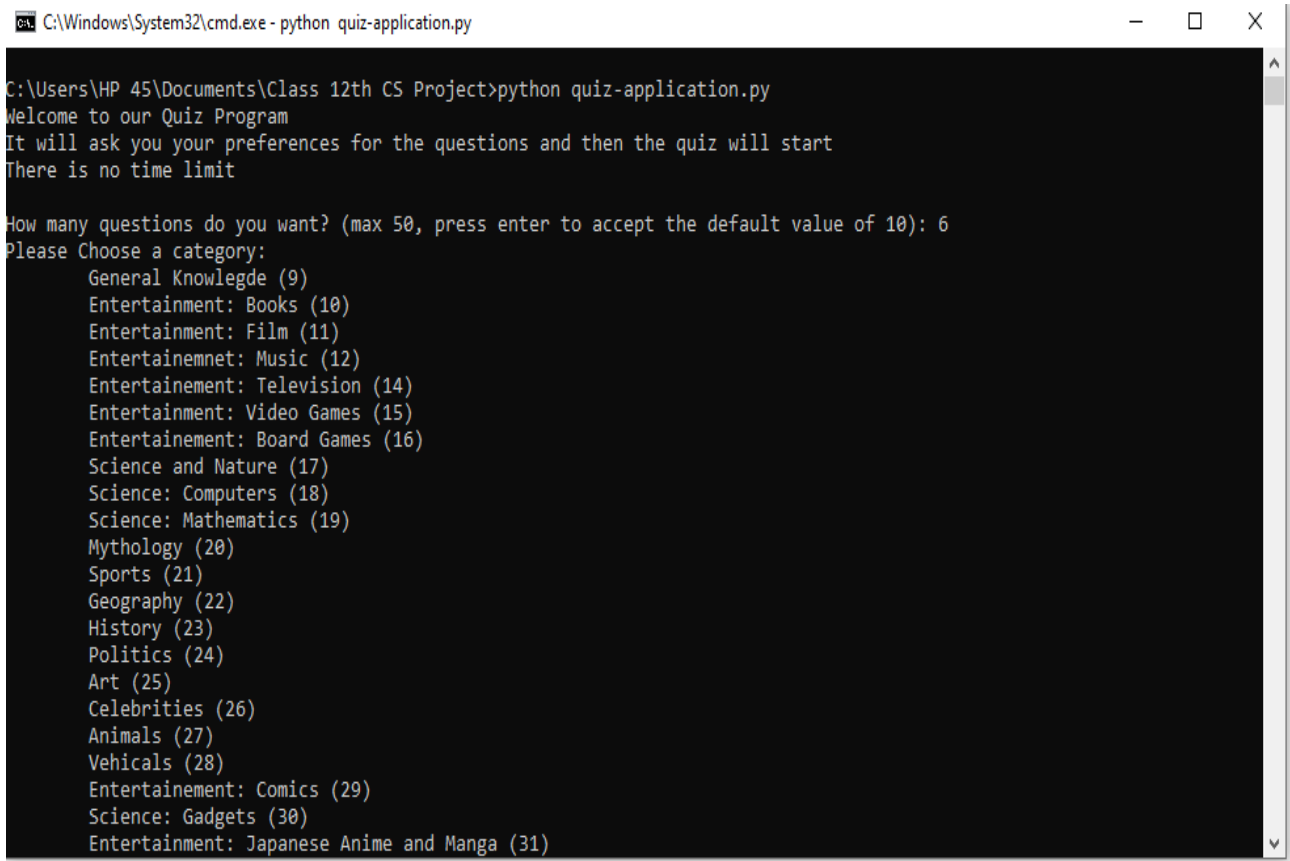
SCREENSHOTS

C:\Users\HP 45\Documents\Class 12th CS Project\quiz-application.py - Sublime Text (UNREGISTERED)

File   Edit   Selection   Find   View   Goto   Tools   Project   Preferences   Help

quiz-application.py   https://drive.google.com/drive/folders/12qyFCosFOb   empproj.py

```
52    else:
53        amount = int(amount)
54    elif not amount:
55        amount = 10
56    else:
57        raise ValueError(f"Required a number > 0 and < 50, got {amount}")
58
59    # print(amount, type(amount))
60    print("Please Choose a category:")
61    for _ in categories:
62        print(f"\t{_} ({categories[_]})")
63
64    cat = input("\nEnter the desired category id (or press enter the choose all): ")
65    if cat.isnumeric():
66        if int(cat) not in categories.values():
67            raise ValueError("Kindly check the id you entered")
68        else:
69            cat = int(cat)
70    elif not cat:
71        cat = None
72    else:
73        raise ValueError(f"Required an id, got {cat}")
74
75    # print(cat)
76    diff = input("Choose a Difficulty\n1. Easy\n2. Medium\n3. Hard\n(Enter number or press enter for all): ")
77    if diff.isnumeric():
78        if diff not in tuple("123"):
79            raise ValueError("Required one of 1, 2, or 3")
80        else:
81            diff = list(difficulties.values())[int(diff)-1]
82    elif not diff: diff = None
83    else:
84        raise ValueError(f"Required a number, got {diff}")
85
86    print("Choose a question Type")
87    tp = input("1. Multiple Choice\n2. True/False\n(enter number or press enter for both): ")
88    if tp.isnumeric():
89        if tp not in tuple("12"):
90            raise ValueError("Required one of 1 and 2")
91        else:
92            tp = list(types.values())[int(tp)-1]
93    elif not tp: tp = None
```

Line 25, Column 42   Tab Size: 4   Python

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C:\Windows\System32\cmd.exe - python quiz-application.py

```
C:\Users\HP 45\Documents\Class 12th CS Project>python quiz-application.py
Welcome to our Quiz Program
It will ask you your preferences for the questions and then the quiz will start
There is no time limit

How many questions do you want? (max 50, press enter to accept the default value of 10): 6
Please Choose a category:
        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)
        Entertainment: Comics (29)
        Science: Gadgets (30)
        Entertainment: Japanese Anime and Manga (31)
```

```
C:\Windows\System32\cmd.exe - python  quiz-application.py                              —  □  ✕

1. Multiple Choice
2. True/False
(enter number or press enter for both):
Contacting API...

[Science: Computers, Difficulty Hard, Multiple Choice]
Q1. The internet domain .fm is the country-code top-level domain for which Pacific Ocean island nation?
1. Tuvalu
2. Fiji
3. Marshall Islands
4. Micronesia
Choose the correct option: 5
Oh no! Wrong Answer
Correct Answer is: 'Micronesia'

[Science: Computers, Difficulty Hard, True/False]
Q2. The IBM PC used an Intel 8008 microprocessor clocked at 4.77 MHz and 8 kilobytes of memory.
1. False
2. True
Choose the correct option: 3
Oh no! Wrong Answer
Correct Answer is: 'False'

[Science: Computers, Difficulty Easy, Multiple Choice]
Q3. What does LTS stand for in the software market?
1. Long Term Support
2. Ludicrous Transfer Speed
3. Long Taco Service
4. Ludicrous Turbo Speed
Choose the correct option:
```

```
C:\Windows\System32\cmd.exe                                                            —  □  ✕

1. Multiple Choice
2. True/False
(enter number or press enter for both):
Contacting API...

[Entertainment: Japanese Anime & Manga, Difficulty Medium, Multiple Choice]
Q1. What year did "Bishoujo Senshi Sailor Moon" air in Japan?
1. 1990
2. 1992
3. 1989
4. 1994
Choose the correct option: 1
Oh no! Wrong Answer
Correct Answer is: '1992'

[Science & Nature, Difficulty Medium, Multiple Choice]
Q2. The medial meniscus forms which part of what joint in the human body?
1. Elbow
2. Shoulder
3. Knee
4. Ankle
Choose the correct option: 1
Oh no! Wrong Answer
Correct Answer is: 'Knee'

You got 0 points for 2 questions!
You Universal score is 0.0


C:\Users\HP 45\Documents\Class 12th CS Project>
```