



Highly Commended

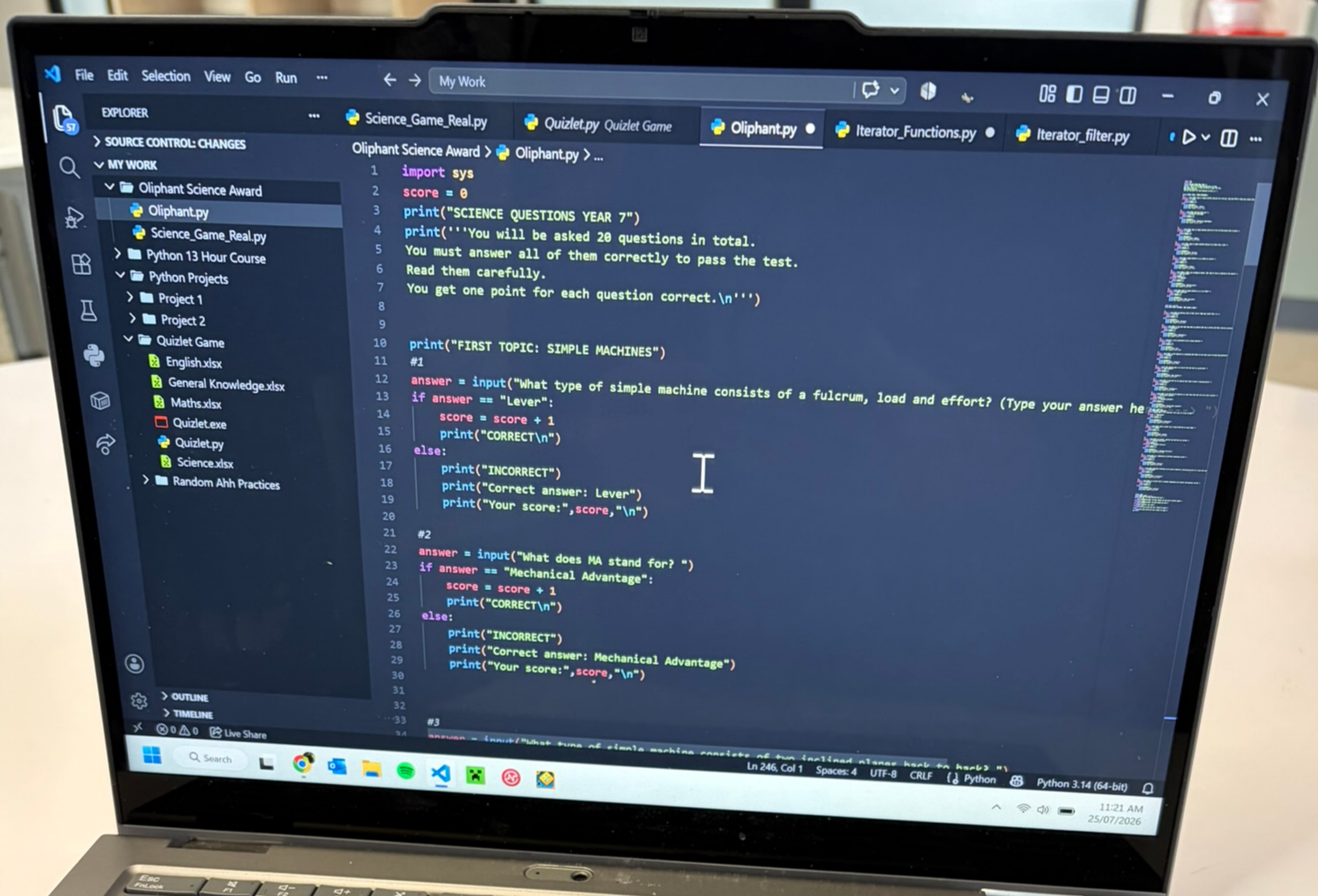
Programming, Apps & Robotics

Year 7 - 8

**Hamish Panchal
Aarush Ranjeet
William Wang**

**Norwood International High
School**





Oliphant Science Awards Entry Report

By: William, Aarush & Hamish

Note: The program is no longer called '1v1 Snow Duels' as we changed the program due to issues with the code. It is now called 'Science Quiz Year 7'.

Aim & Purpose

The aim of the code is to create a digital quiz that students can do to practice their scientific knowledge. This program can be used in classrooms or revision for science exams.

Device Used To Run It

This program can be run on most laptop and desktops computers that support Python. This device must have python installed and be capable of running THE Python program.

How To Use

To run the code, simply paste it into a code running app that can run python. Click the run button, and it will load the terminal. In the terminal will be text that introduces the quiz and a question. To answer the question, there is a place next to it where you can type in text. If you type in the correct answer (capital letters affect the program) the program will load text that says "CORRECT". If the answer is wrong, the program will type "INCORRECT" and the score (the amount of questions answered right) will also appear, and it will take you to the next question. This will continue until all the questions are answered.

How Our Code Works

The 'score = 0' is used to create a variable named 'score'. The '= 0' is used to tell the program the score (which is 0 in the beginning). All the 'print("_____")' is used to produce text in the terminal. The 'answer = input("_____")' is used to allow the user to type in answers to answer the questions. The '("_____")' bit of that piece of code is to create the question in the terminal to be answered. The 'if answer == "_____":' bit was to make it so that if an answer was typed in, then you would receive a point that goes towards the score. In this case the score gets added by 1 (score = score + 1) and the program produces a text that says: 'CORRECT'. The 'else:' bit of the program basically makes it so that if anything else is typed in instead of the answer, the program will do something. In this case, the program will create text that reads: 'INCORRECT' and it will show you your score. Then it will end the program. This is repeated until there are no more questions. There are also additional 'elif answer == "_____":' bits. 'Elif' stands for 'else if', so it basically means that if the answer is something else that is a specific answer, then it does something else. This is used in our program when there is more than one answer. This is used on some of the

questions. There is also '`\n`'. This piece of code is used in some of the '`print()`' statements. It is used to create a new line underneath. At the end of the program, it will show your score using '`print()`' and it will calculate the score. If the score is 20, then it will congratulate you that you aced the test. If the score is above 15 but below 20, it will tell you that you passed the test. If the score is lower than 15, the program will tell you that you failed and to try again.

Acknowledgment of External Support & AI Tools Acknowledgement

We declare that only 2 types of ai's were used, a smart autocomplete built into VS code and gemini to help brainstorm the questions. The autocomplete helped finish what we were typing. We adjusted the autocompleted code to suit our ideas, ensuring it was our own work. We also had no external support with the coding and report part of our entry. We did it as a group with no external support.

Bibliography

- Visual Studio Code. Microsoft. Used to develop and edit the game. Found at <https://code.visualstudio.com/>
- Python. Python Software Foundation. Programming language used to create the game. Found at <https://www.python.org/>
- Google Gemini. Google. Brainstorm questions for the program. Found at <https://gemini.google.com/app>

Our Code

```
import sys
score = 0
print("SCIENCE QUESTIONS YEAR 7")
print('''You will be asked 20 questions in total.
You must answer all of them correctly to pass the test.
Read them carefully.
You get one point for each question correct.\n''')

print("FIRST TOPIC: SIMPLE MACHINES")
#1
```

```
answer = input("What type of simple machine consists of a fulcrum, load
and effort? (Type your answer here ---> ")
if answer == "Lever":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Lever")
    print("Your score:",score,"\n")

#2
answer = input("What does MA stand for? ")
if answer == "Mechanical Advantage":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Mechanical Advantage")
    print("Your score:",score,"\n")

#3
answer = input("What type of simple machine consists of two inclined
planes back to back? ")
if answer == "Wedge":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Wedge")
    print("Your score:",score,"\n")

#4
answer = input("What type of simple machine consists of a wheel and a
rope? ")
if answer == "Pulley":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Pulley")
    print("Your score:",score,"\n")
```

```

#5
answer = input("What simple machine is in a blade of a knife? ")
if answer == "Wedge":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Wedge")
    print("Your score:",score,"\n")

#6
answer = input("When a wedge cuts through an object, what type of force
is applied to the object? ")
if answer == "Applied Force":
    score = score + 1
    print("CORRECT\n")
elif answer == "Applied":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Applied Force")
    print("Your score:",score,"\n")

#7
answer = input("What type of simple machine is in a car wheel? ")
if answer == "Wheel And Axle":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Wheel And Axle")
    print("Your score:",score,"\n")

#NEW TOPIC: BIOLOGY
print("NEW TOPIC: MICROBES, FOOD CHAINS & WEBS")

#1
answer = input("What do bacteria lack in their cells? (Type your answer
here ---> ")

```

```
if answer == "Nucleus":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Nucleus")
    print("Your score:",score,"\n")

#2
answer = input("What is the word that describes an organism that has a
nucleus and other internal structures in their cells? ")
if answer == "Eukaryotic":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Eukaryotic")
    print("Your score:",score,"\n")

#3
answer = input("Is a virus considered to be a living organism? ")
if answer == "No":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: No")
    print("Your score:",score,"\n")

#4
answer = input("What is the organism in a ecosystem that makes its own
food usually through photosynthesis? ")
if answer == "Producer":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Producer")
    print("Your score:",score,"\n")

#5
```

```

answer = input("The organism that is on top of the food chain is called
what? ")
if answer == "Apex Predator":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Apex Predator")
    print("Your score:",score,"\n")

#6
answer = input("What is the term for an organism that feeds on dead or
decaying matter? ")
if answer == "Decomposer":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Decomposer")
    print("Your score:",score,"\n")

#7
answer = input("What is the term for an organism in a food chain that
eats the first order consumer? ")
if answer == "Second Order Consumer":
    score = score + 1
    print("CORRECT\n")
elif answer == "Secondary Consumer":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Second Order Consumer")
    print("Your score:",score,"\n")

#NEW TOPIC: CHEMISTRY
print("NEW TOPIC: CHEMISTRY")
answer = input("What is the transition from a gas to a solid called? ")
#1
if answer == "Deposition":
    score = score + 1
    print("CORRECT\n")

```

```
else:
    print("INCORRECT")
    print("Correct answer: Deposition")
    print("Your score:",score,"\n")

#2
answer = input("What state of matter has a fixed volume but no fixed
shape? ")
if answer == "Liquid":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Liquid")
    print("Your score:",score,"\n")

#3
answer = input("What are protons, neutrons and electrons all called? ")
if answer == "Subatomic Particles":
    score = score + 1
    print("CORRECT\n")
elif answer == "Subatomic Particle":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Subatomic Particles")
    print("Your score:",score,"\n")

#4
answer = input("What is a combination of different substances called?
")
if answer == "Mixture":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Mixture")
    print("Your score:",score,"\n")

#5
```

```

answer = input("What seperation technique can be used to seperate a
undissolved mixture of a solid and liquid? ")
if answer == "Filtration":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Filtration")
    print("Your score:",score,"\n")

#6
answer = input("What is a mixture that is somewhat homogeneous and
somewhat heterogeneous called? ")
if answer == "Colloid":
    score = score + 1
    print("CORRECT\n")
else:
    print("INCORRECT")
    print("Correct answer: Colloid")
    print("Your score:",score,"\n")

#FINAL SCORE
print("FINAL SCORE:",score)
print("GOOD JOB! YOU HAVE COMPLETED THE TEST.")
if score == 20:
    print("CONGRATULATIONS! YOU HAVE PASSED THE TEST WITH A PERFECT
SCORE!")
elif score >= 15:
    print("CONGRATULATIONS! YOU HAVE PASSED THE TEST!")
elif score >= 10:
    print("Try better next time!")
elif score < 10:
    print("You have failed the test. Please try again.")
else:
    print("You have failed the test. Please try again.")
sys.exit()

```