

STARTING INFORMATION

MET Brighton
Metropolitan
College

Digital Industries

Welcome to T-Level | Digital Software Development

Course details

Course code: MITP045F

Campus: Brighton – Central

Attendance: Full Time

Duration: 2 Years

Qualification: T Level in Software
Development | Level 3

Dear Student,

We're delighted to welcome you to Brighton MET College and are very much looking forward to you joining us this September.

During your first week, you'll receive key information about the course, the department, and the college. This will include your timetable and course handbook. Your tutor will introduce you to the structure of the course and assessments, outline the exciting work-related experiences you'll take part in, and explain our expectations of you as a student at Brighton MET.

We can't wait to support you on this creative and professional journey.

Best wishes,

Karena Morrison

Teaching & Learning Manager

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What to bring on your first day:

- Pen
- Pencil
- Ruler
- Water Bottle
- Highlighter
- Folder filled with lined paper

Kit list

- Please obtain a GitHub account. It is free.
(<https://github.com/>)
- Please install VS Code on your laptop or PC. It is also free.
(<https://code.visualstudio.com/>)

Summer tasks:

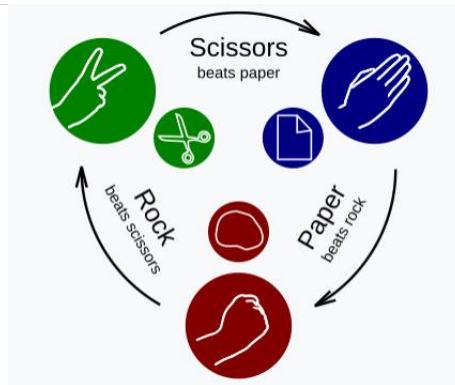
Background

According to Wikipedia:

'Rock, Paper, Scissors is a hand game, usually played between two people, in which each player simultaneously forms one of three shapes with an outstretched hand. These shapes are "rock" (a closed fist: 🐊), "paper" (a flat hand: 🖐), and "scissors" (a fist with the index finger and middle finger extended, forming a V: ✂).'

'It has three possible outcomes: a draw, a win, or a loss. A player who decides to play rock will beat another player who chooses scissors ("rock crushes scissors") but will lose to one who has played paper ("paper covers rock"); a play of paper will lose to a play of scissors ("scissors cuts paper"). If both players choose the same shape, the game is tied but is usually replayed until there is a winner.'

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Software Task

Write a Python program that plays rock, paper scissors against a human

- The human should be able to pick their choice from a GUI; e.g. by clicking on an option button or clicking on a picture of rock, paper or scissors.
- The program must make its choice randomly. **Not** choosing its option to beat the human automatically based on the human's input!
- The program should tell the player the result and prompt them for another round if the result is a draw

Extension

An extended version of this game is Rock-Paper-Scissors-Fire-Water.

Again, according to Wikipedia

'Rock beats scissors, paper beats rock, scissors beats paper, fire beats everything except water, and water is beaten by everything except it beats fire.'

Wikipedia provides a useful table summarising your rules.

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Rock-Paper-Scissors-Fire-Water;

+ means that the row player "beats", - means "is beaten" and O means tie

Opponent Row player	rock	paper	scissors	fire	water	Optimal strategy for row player
rock	O	-	+	-	+	$\frac{1}{9}$
paper	+	O	-	-	+	$\frac{1}{9}$
scissors	-	+	O	-	+	$\frac{1}{9}$
fire	+	+	+	O	-	$\frac{1}{3}$
water	-	-	-	+	O	$\frac{1}{3}$

Modify your program you created for Rock-Paper-Scissors to play Rock-Paper-Scissors-Fire-Water.

Note that the "Optimal strategy for row player" column gives the probability with which the computer should generate each option to maximise the likelihood of winning in a fair game.

Resources

If you have not built a GUI in Python before a good reference is

<https://www.geeksforgeeks.org/python/python-gui-tkinter/>

A general reference for Python is

<https://www.w3schools.com/python/>

Submission – Deadline 1st September 2025

- Create a public repository on GitHub for your project
- Make sure the latest version of your Python program is in the repository
- Email a link to the repository to nick.sutton@gbmc.ac.uk

Reference

https://en.wikipedia.org/wiki/Rock_paper_scissors (Accessed 27/06/25)

Other

Financial support

Information can be found on our main website: brightonmet.ac.uk

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Go to 'help and support' then 'financial support'



[CLICK TO VIEW](#)

Link to LSG (Learner Support Grant) application

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Contact details

Brighton MET Admissions Office: admissions@gbmc.ac.uk