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The Butterfly Hunter Workbook
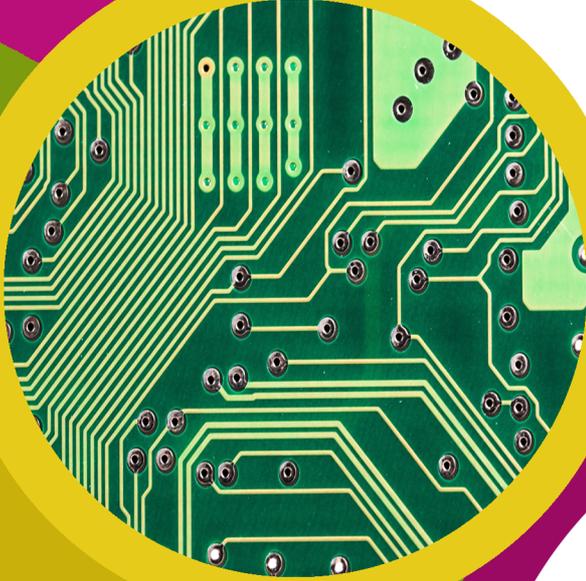
Introduction

Overview

In this workshop we will be learning about the work that Alfred Russel Wallace did in categorising new species of insects on his expeditions. We will learn about how scientists use machine learning to help them do the same work today and learn about why different species exist in the world. We will then use the knowledge we gain about variations and species to make a Butterfly catching game in Scratch.

Learning Outcomes

1. Learn about machine learning and how it is useful to us.
2. Learn about DNA and how it is the instructions for life.
3. Improve our programming skills using Scratch to make a game.

## Attendee Prerequisites

1. No experience required.

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The Butterfly Hunter

What Do You Know About Wallace?

Write a sentence or two of what you know about Alfred Russel Wallace:

Machine Learning - Pattern Recognition

Which shape comes next in the patterns below? Circle the correct answer.

??

??
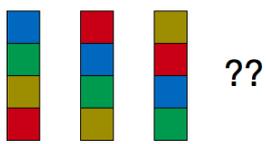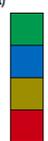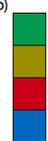
a) b) c) d)
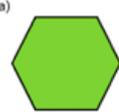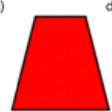
a) b) c) d) e)
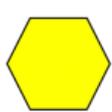
Machine Learning - Quiz

Write down your answers (a, b, c or d) for the questions on the slides:

1. _____
2. _____
3. _____
4. _____

Butterfly or Dragonfly

?

The Butterfly Hunter

Tally Chart

Use the tables below to track how many times each result happens.

	Tally
Heads	
Tails	

	Tally
1	
2	
3	
4	
5	
6	

Keywords

Machine Learning
DNA
Adaptation

Algorithm
Random
Variable

Machine Learning - Teaching a computer to learn things itself.

Algorithm - A set of steps or instructions done in order.

DNA - Tiny strings of information inside our bodies that make us who we are.

Random - Something you can't predict, like a coin landing on heads or tails.

Adaptation - The way living things adapt to their environment to help them survive, like a Polar Bear's thick fur.

Variable - Information that we can keep track of or that changes when a program runs like a score in a game.
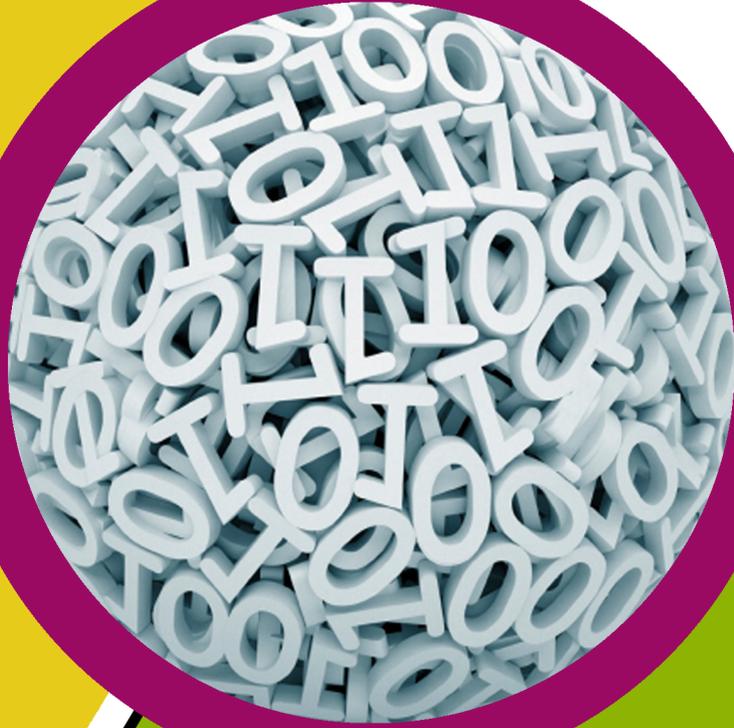
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