HOUR OF CODE 2021 (TIMECRAFT) CODING SOLUTIONS

The coding solutions shown that follow provide one beginner and one more advanced solution for each time split in both **Block** and **Python**. However, students may find multiple solutions that reach the same successful outcome.



# HOUR OF CODE 2021: CODING SOLUTIONS (MakeCode Blocks)

The coding solutions shown below provide one beginner and one more advanced solution for each time split. However, students may find multiple solutions that reach the same successful outcome.

**Improving Code in Blocks**

What if there is a command that you want your Time Agent to perform over and over again?

Although students could use the same MakeCode block 15 times or even copy and paste them to save some time, there is a more efficient way to code. Using loops in coding will save students lots of time as they learn more about programming.

Select a "repeat" block from the Loops drawer, type in the number of times you want those commands to repeat and then place those commands into the repeat block. Make sure the blocks are in the right order and only include the blocks you want to be repeated!

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| **Time Split 1: Big Band Jazz**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
|  | The beginner solution is also the most advanced solution, although students may reach various solutions that still achieve the same outcome. |

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| **Time Split 2: Pyramids of Giza**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 3: Moon Mission**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
|  | The beginner solution is also the most advanced solution, although students may reach various solutions that still achieve the same outcome. |

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| **Time Split 4: The Great Wall of China**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 5: The Mona Lisa**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 6 – First Flights**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 7 – First Computer Scientist**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 8: Human’s Best Friends**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 9: Palaeontology Puzzle**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
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| **Time Split 10: Elements of Discovery**  Students may discover multiple solutions for this time split and still reach a successful outcome. | |
| Beginner Solution Example | More Advanced Solution Example |
|  | The beginner solution is also the most advanced solution, although please note that students may reach various solutions that still achieve the same outcome. |

# HOUR OF CODE 2021: CODING SOLUTIONS

**(Azure Notebooks Python Code)**

The coding solutions shown below provides one beginner and one intermediate solution for each time split. However, students may find multiple solutions that reach the same successful outcome.

For the intermediate code, please note that Python is VERY sensitive to tabs and spaces. All the repeated commands in the “for I in range” loops **MUST** be indented exactly the same. Use one tab to make sure it works rather than multiple spaces on the space bar.

**Big Band Jazz**

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| **Beginner Code** | **Intermediate Code** |
| C:\Users\birving\Documents\HourofCode2021\python_code_screenshots\jazz_beginner.png | C:\Users\birving\Documents\HourofCode2021\python_code_screenshots\jazz_intermediate.png |

**Pyramids of Giza**

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| --- | --- |
| **Beginner Code** | **Intermediate Code** |
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**Moon Mission**

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| **Beginner Code** | **Intermediate Code** |
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**The Great Wall of China**

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| --- | --- |
| **Beginner Code** | **Intermediate Code** |
| C:\Users\birving\Documents\HourofCode2021\python_code_screenshots\china_beginner.png |  |

**The Mona Lisa**

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| **Beginner Code** | **Intermediate Code** |
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**First Flights**

|  |  |
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| **Beginner Code** | **Intermediate Code** |
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**First Computer Scientist**

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| **Beginner Code** | **Intermediate Code** |
|  | Because of the less predictable movements in this time split, a straight sequence is advisable, as in the Beginner Code. |

**Human’s Best Friends**

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| **Beginner Code** | **Intermediate Code** |
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**Palaeontology Puzzle**

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| **Beginner Code** | **Intermediate Code** |
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**Elements of Discovery**

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| **Beginner Code** | **Intermediate Code** |
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