

Programming progress checklist

Pedagogy

Gaining the kudos for having collected trophies/achievements is common place in console games today. It's a great incentive, and adds a layer of replay-ability into games. I experimented with putting that into my programming challenges to see what the effect would be on the learners. There is nothing to gain, other than the kudos of having accomplished something.

Surprisingly, adding in simple achievements and giving them names, had a dramatic effect on the student's productivity. They were already motivated to learn to code, but this added an extra, powerful incentive.

The idea is that the students date when they have completed the tasks and challenges in the programming companion on these checklists. The teacher then reviews just the programs completed for the achievements. The teacher then signs these to indicate they have been completed.

In addition the teacher may include additional formative assessment comments, such as, "comment the code more comprehensively", or, "use sensible variable names" etc. that they might want to see in future solutions.

Students are not expected to achieve every challenge, just enough so they feel confident using the commands they have learned. Targeting the achievements to particular challenges, focusses students on wanting to tackle them.

Programming Progress Checklist

Name:

| Objectives & Achievements | Tasks & Challenges | Screenshot of Python Code | Date completed |
|---|-----------------------|---------------------------|----------------|
| Objective 1: Understand how to output text strings | Tasks | | |
| | Visual dice challenge | | |
| | ASCII art challenge | | |

Programming Progress Checklist

Name:

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| | | | |
| Achievement: <i>I'm an artist</i> | ASCII Art challenge completed | | |
| Objective 2: Understand how to input strings and numbers into variables | Tasks | | |
| | Simple adder challenge | | |
| | Test marks challenge | | |

Programming Progress Checklist

Name:

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| | | | |
| | Temperature converter | | |
| | Height & weight | | |
| | Toy cars challenge | | |

Programming Progress Checklist

Name:

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| | | | |
| | Fish tank volume | | |
| | Circle properties | | |
| Achievement: <i>All in hand</i> | All objective 2 tasks and challenges completed | | |
| Objective 3: Understand string manipulation functions | Tasks | | |
| | Initials & surname | | |

Programming Progress Checklist

Name:

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|--|----------------|--|--|
| | | | |
| | Airline ticket | | |
| | Name separator | | |
| | Word extractor | | |

Programming Progress Checklist

Name:

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|-------------------------------|--|--|--|
| | | | |
| Achievement: <i>Lazy Dogs</i> | Name separator and word extractor challenges both working without help using left, right & len | | |

Programming Progress Checklist

Name:

| Objectives & Achievements | Tasks & Challenges | Screenshot of Python Code | Date Complete |
|---|--------------------------------|---------------------------|---------------|
| Objective 4: Understand how to use selection statements | Tasks | | |
| | Water temperature challenge | | |
| | Under age challenge | | |
| | Vocational grade challenge | | |

Programming Progress Checklist

Name:

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|-----------------------------------|-------------------------------------|--|--|
| | | | |
| | Extended visual dice challenge | | |
| | Greatest number challenge | | |
| Achievement: <i>I can do this</i> | 3 difficulty ✨ challenges completed | | |
| | Nitrate challenge | | |

Programming Progress Checklist

Name:

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|---------------------------------|---|--|--|
| Achievement: <i>In the flow</i> | Greatest number and Nitrate challenges both completed | | |
| | Portfolio grade challenge | | |
| | Cash machine challenge | | |

Programming Progress Checklist

Name:

| | | | |
|-----------------------|---|--|--|
| | Periodic table challenge | | |
| Achievement: $e=mc^2$ | Portfolio grade and periodic table challenges completed | | |
| | Train ticket challenge | | |
| | Hours worked challenge | | |

Programming Progress Checklist

Name:

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|---------------------|----------------------------------|--|--|
| | | | |
| Achievement: 9 to 5 | Hours worked challenge completed | | |

| Feedback/Action from objective | Response seen in subsequent work |
|--------------------------------|----------------------------------|
| | |