IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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# ASTRONAUTICS WITH TURTLE

**Abstract**

The developments in the space sector today create interest and necessity in people to learn more about astronomy. Especially if we can teach the primary objective of astronomy science to children in an interesting way at an early age, they can build their futures in this direction. This means a direct development of the astronomy field. Our goal is to integrate astronomy science with programming languages. Based on this idea, the aim is for children to code celestial bodies (stars, planets, asteroids, etc.) using the turtle module, which is a module of the Python programming language, and ensure that their images are drawn on the screen. For this, we can create an online platform that will only have the Python turtle module. This way, children will be able to use the turtle module without needing to call it. The platform will consist of two parts: a laboratory for children to write their code and a learning section where we place prepared materials. In the laboratory, children will create their code based on the given assignment and see the result on the right side of the screen as an animation when they check the code. For example, if the task is to draw a star, a video explanation will be provided in the learning section, which they can watch to easily set up the program. Also, videos will be prepared and will open when clicking on the image of the material. In general, there will be a learning section that reflects the science of astronautics, innovations happening in space, and is constantly updated. We can develop the platform in the future for broader purposes. We would like to present you with the following code as an example. You can see the result of this code by checking it in any IDLE compiler. The code will draw a star shape.

import turtle star = turtle.Turtle() star.color("yellow") star.speed(3) star.begin$_fill()foriinrange(5)$ : $star.forward(100)star.right(144)star.end_fill()turtle.done()$