

15019455 final code

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FINAL GRADE

70/100

GENERAL COMMENTS

Instructor

Good code that fulfils all of the main specifications of the task and calculates the correct values– well done.

You must state your assumptions as it says in the script when checking for collisions ie. whether you are checking for a collision of the centres of the sphere or touching the edges of the spheres.

You were supposed to submit your code with initial conditions that resulted the bird hitting olaf. Because of this I had to spend some time trying to get a hit so I could see the explosion to give you marks for that.

When replacing teh header I had to re-define 'criticalspeed' before the program would work.

5 bonus points for explosion animations.

SPECIFICATION

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Has the specification in the script been followed?

EXCEPTIONAL (0)	n/a
PROFICIENT (10)	Code continues to work as intended when the header section is replaced
DEVELOPING (6)	Code does not work exactly as intended when header section is replaced, due to minor error or misinterpretation of the specification
INADEQUATE (3)	Code does not work exactly as intended when header section is replaced, due to major error or misinterpretation of the specification
ABSENT (0)	No apparent attempt made to ensure code continues to work as intended when header section is replaced.

OLAF'S COORDS

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Are the coordinates of Olaf the Snowman correctly initialized?

EXCEPTIONAL (0)	n/a
PROFICIENT (5)	Olaf's x and y coordinates correctly initialized
DEVELOPING (3)	Minor error or problem with coordinate initialization
INADEQUATE (1)	Major error or problem with coordinate initialization
ABSENT (0)	Not calculated

INIT PARAMS

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Have the submitted initial parameters been chosen to result in a successful collision?

EXCEPTIONAL (0)	n/a
PROFICIENT (5)	The submitted parameters result in a successful collision, as specified in script
DEVELOPING (3)	Submitted parameters are feasible, but do not result in the successful collision requested by the script
INADEQUATE (1)	No apparent attempt to find submitted parameters that result in a collision
ABSENT (0)	Not calculated

GRAV FORCES

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Are the gravitational forces between the objects correctly calculated?

EXCEPTIONAL (0)	n/a
PROFICIENT (15)	Gravitational forces calculated correctly between all objects specified in the script
DEVELOPING (10)	Minor problem with gravitational forces
INADEQUATE (5)	Calculated gravitational forces are clearly wrong
ABSENT (0)	No apparent attempt to correctly calculate forces

COLLISIONS

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Are collisions between objects correctly calculated and output?

EXCEPTIONAL (0)	n/a
PROFICIENT (15)	A sensible method for detecting collisions implemented. Collisions between objects are correctly calculated and output to the console.
DEVELOPING (10)	Minor problem with collisions - eg collision detection method unreliable or collision detection not output to console
INADEQUATE (5)	Major problem with collision detection - collisions not correctly detected
ABSENT (0)	No apparent attempt to detect collisions

CODE COMMENTS

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Quality of the commenting of the code

EXCEPTIONAL (10)	Exceptional level of commenting throughout the code. Clear, concise and readable throughout.
PROFICIENT (7)	Code is clearly commented where needed, such that the intention of the code is immediately transparent to the marker. Complicated parts of code have a higher level of commenting than simpler parts. Any user-defined functions have correctly-formatted docstrings. Comments are not unnecessarily verbose
DEVELOPING (5)	Code is undercommented, unnecessarily verbose, or so unnecessarily overcommented that readability is affected.
INADEQUATE (2)	Significant lack of useful comments in the submitted code.
ABSENT (0)	No comments are included beyond those supplied in the template

EXCEPTIONAL (15)	Code is exceptionally clear, efficient, well-structured and follows best practice throughout.
PROFICIENT (10)	Code is clear, follows best practice guidelines, with a good effort made to ensure appropriate variable names and efficiency of calculation. Runs without errors or warnings.
DEVELOPING (7)	The code runs with no errors, but is somewhat inefficient or poorly structured, or has a poor choice of variable names
INADEQUATE (4)	Code has errors (requiring the marker to correct it before it can be run) - for example an undefined variable; or code that does not work as it should.
ABSENT (0)	Code would require significant correction before it can be run.

STRUCTURE

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EXCEPTIONAL (15)	Code structure that is exceptionally well structured: it is extremely efficient yet remains clear, eg correct, effective and appropriate use of user-defined functions or other structures leading to an overall code structure that is both efficient and clear to the reader.
PROFICIENT (10)	The code follows a sensible and efficient structure, with correct use of nested loops and if/else structures where appropriate, and sensible use of user-defined functions
DEVELOPING (7)	The structure of the code is generally clear, but could be optimised, eg sections of code are repeated rather than run as a loop, user-defined functions not used when appropriate
INADEQUATE (4)	The code does not fully follow the structure specified in the script, or is very inefficient.
ABSENT (0)	Structure is clearly wrong.

BONUS

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EXCEPTIONAL (10)	Extremely well-executed, effective and imaginative extensions beyond the requirements of the script which nonetheless remain consistent with the specification
PROFICIENT (7)	Well-executed, effective and imaginative extensions beyond the requirements of the script have been included, which nonetheless remain consistent with the specification.
DEVELOPING (5)	Some extensions beyond the requirements of the script have been included, but with problems, eg a minor break of the specifications or suboptimal implementation
INADEQUATE (2)	A basic attempt at extending the script, but poorly implemented or not consistent with the specifications

ABSENT
(0)

No attempt made to go beyond the requirements of the script.