

Exploring Computer Science Scratch #6 - Grades

Objective: Demonstrate your understanding of Scratch variables and conditionals.

1. In your *Exploring Computer Science* folder, create a folder titled *First_Last_Scratch_6*
2. Start Scratch. Save this project in your *Scratch_6* folder as *grades.sb2*.
3. You are to create a program that will tell the user their grade based on a percentage.
 - a. Add a variable to the program. Name it *percent*.
 - b. Add any Sprite that you want to your project. The cat is fine.
 - c. You must have instructions so that the user knows to click your Sprite. This may be in the form of a second Sprite, or it can be text written on the backdrop.
 - d. When the Sprite is clicked it should broadcast *Ask Percent*.
 - e. When the **Stage** receives *Ask Percent*, the Stage should:
 - i. ask the user what their percent is.
 - ii. set the *percent* variable to be the answer that was received from the user
 - iii. broadcast *CheckPercent*.
 - f. When your **Sprite** receives *CheckPercent*, have your **Sprite** say the following for 2 seconds based on the value of *percent*.

| If-then condition | What the Sprite Says for 2 secs |
|------------------------------------------|------------------------------------|
| $percent > 100$ | You can't have more than 100%! |
| $percent \geq 90$ and $percent \leq 100$ | You have an A. |
| $percent \geq 80$ and $percent < 90$ | You have a B. |
| $percent \geq 70$ and $percent < 80$ | You have a C. |
| $percent \geq 60$ and $percent < 70$ | You have a D. |
| $percent \geq 0$ and $percent < 60$ | You have an F. |
| $percent < 0$ | You can't have a negative percent! |

- g. After the Sprite has said one of the above phrases, if $percent > 100$ or $percent < 0$, stop the script. (*Stop* is found in the *Control* menu)
- h. The high school that your Sprite attends is pretty crazy. Students qualify for tutoring only if they have a B or a D. After the Sprite says the grade that you have, have your Sprite say ***You qualify for tutoring*** if the grade is a B or a D. If the Sprite doesn't have a B or a D, your Sprite should say ***You don't qualify for tutoring***.

You must do this in a *single* conditional statement using an if-then-else block. This will be the last block in your script.