STEM from Home

Username Generator

Build Your Own Solar System

"WHAT'S IN A NAME?" ~ WILLIAM SHAKESPEARE

Usernames are necessary in today's digital world. Username gives you an online identity as unique as you are. But they should also provide a level of security and confidentiality. Not all usernames need to be secure, but most definitely are. When you need to create a username for a private account, such as for personal banking or for some obscure online forum, you will need to select a complex one which does not disclose your identity. So, it is important to select a username which does not let anyone identify you or trace you simply by having a look at it.

In this STEM Pack you will learn how to create a computer program to generate unique usernames; add to the code to clear your footprints and finally code the program to delete unwanted usernames.

Main Activity: **Generate a Username**

Introduction:

Username-username Everywhere, Not Any Available to Pick.

Now is the time for some fun. In this activity, you will learn to make a computer program that will help you generate some interesting and mysterious usernames which will keep your identity safe.

What You Will Learn

By writing this program you will get familiar with some interesting features of Scratch programming environment like:

• Defining and using variables

• Defining and using lists

• Displaying a prompt on the screen to key in information

• Add action buttons on the screen

• Store values in variables

• Display lists on the screen

What You Will Need

Hardware

• A computer (PC/Mac/Linux/Raspberry Pi)

• An internet connection

Software

• Scratch programming environment

• Online version: Scratch - Imagine, Program, Share

• Offline version: Download from here - Scratch Offline Editor

Getting Started

Click on this link to access Username Generator and start building your project.

Bonus Activities

Activity 1: Leave No Trace!

Introduction

You have learnt in the main activity that you can create and store usernames for yourself which are non-descriptive of your real identity. Suppose you are working on a shared computer, and you don't want anyone else to have a look at the list of usernames you have generated for yourself. You will need to clear your username list before anyone else starts using your computer. In this activity, you will add a few lines of code to the program you created in the Main Activity, to refresh the list of your usernames you liked.

What You Will Learn

Delete all items from lists

What You Will Need

Requirements are same as in the previous activity (Main Activity)

Getting Started

Access the activity guidelines here.

Challenge Activity: Delete a Username

In the main activity you learnt how to create and store usernames with guided steps. In the bonus activity you enhanced the functionality of your program by learning how to clear your fingerprints (remove all your actions) from the computer you just used.

This challenge activity will test your coding skills by adding more functionality to the username generator program.

Suppose you added some duplicate usernames to the list of names you liked. Or while reviewing the shortlisted names, you found a name which you don't like and want to remove it from the liked names' list.

Your task is to add a few lines of code to the program. The program should now ask the user to delete a specific name from the list and perform the action accordingly.

The interface of the program should be similar to what is shown in the following image.

• Users should be able to click on a new action button e.g., a cross (×).

• A textbox with the option to accept a number appears once the user clicks on the (×) button.

• The username at the entered number position should get deleted from the list.

For example, if the user keys in 2, and clicks on the ✓ button on the text box, the name at the 2nd place in the list should be deleted.
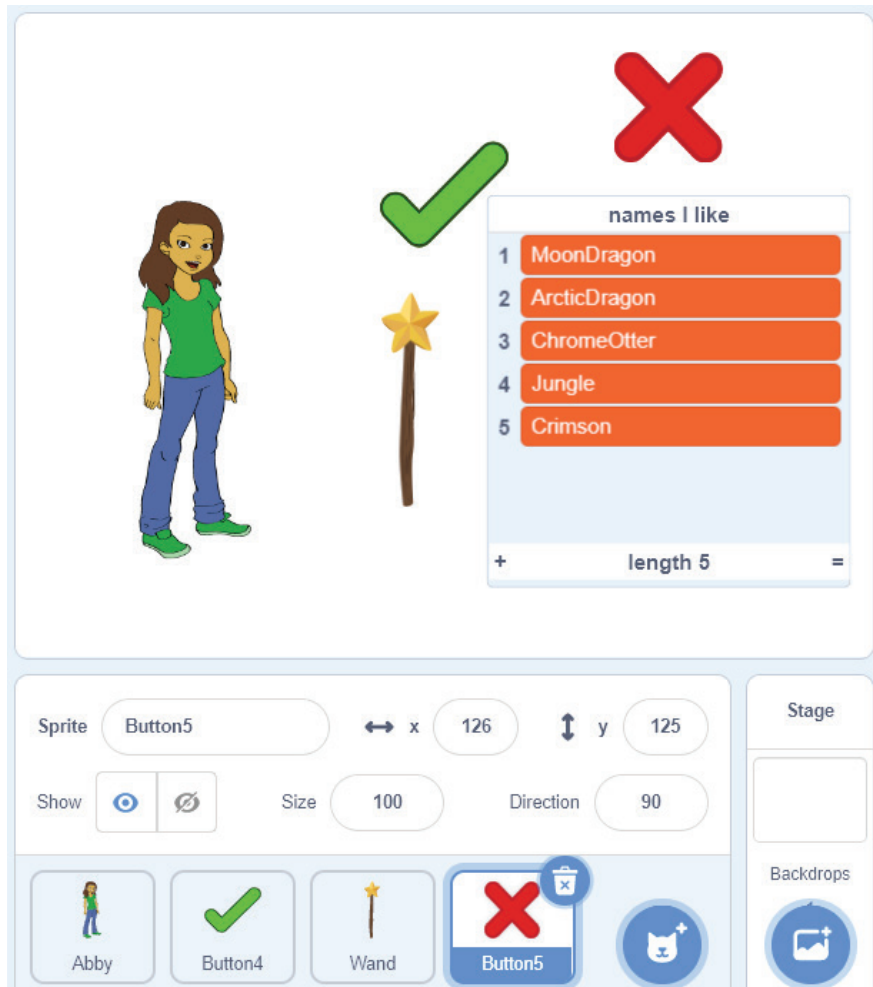
Work independently.

Best of luck!