

Algorithmen - Schleifen und Scratch

Herr Leinberger

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Einführung

Vorstellen

Ordner kopieren

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Quiz

Öffnet den folgenden Link: arsnova.click/quiz/leinberger1

Den Link findet ihr auch in den Aufgaben

Ergebnisse

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Definition

Eine Schleife dient dazu, ein Programmstück mehrfach zu wiederholen. Das Programmstück wird auch Schleifenkörper genannt. Dieser wird solange wiederholt, wie eine bestimmte Bedingung erfüllt ist. Diese nennt man Schleifenbedingung.

Schleifenkörper

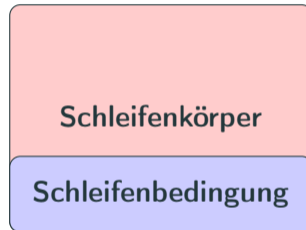
The diagram consists of two rounded rectangular boxes. The first box on the left is light red and contains the text 'Schleifenkörper'. The second box on the right is light blue and contains the text 'Schleifenbedingung'. There are no lines or arrows connecting the two boxes.

Schleifenbedingung

Schleifenbedingung

Schleifenkörper

vorgeprüfte Schleife



nachgeprüfte Schleife

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Scratch

Öffnet den folgenden link: scratch.mit.edu

→ oben links auf „Entwickeln“

The screenshot displays the Scratch programming environment. The interface includes a top menu bar with options like 'Datei', 'Bearbeiten', and 'Tutorials'. On the left, there is a 'Bibliothek' (Library) pane with categories such as 'Bewegung' (Movement), 'Aussehen' (Appearance), 'Klang' (Sound), 'Ereignisse' (Events), 'Steuerung' (Control), 'Zahlen' (Numbers), 'Operatoren' (Operators), 'Variablen' (Variables), and 'Meine Blöcke' (My Blocks). The 'Bewegung' category is selected, showing various movement blocks. A script is being built on the main workspace, consisting of the following blocks:

- Go to x: 10, y: 10 and say Hello for 2 seconds
- Turn 15 degrees clockwise
- Turn 15 degrees clockwise
- Go to random position
- Go to x: 1, y: 0
- Go to x: 1, y: 0, z: 0, and say Hello for 2 seconds
- Turn 90 degrees clockwise
- Turn 15 degrees clockwise
- Change x by 10
- Change x by 1
- Change y by 10
- Change y by 1
- Slide from the right
- Set opacity to 0.5

At the bottom of the library, there are checkboxes for 'Animation', 'Pfad', and 'Richtung'. The main workspace is a large grid where the script is assembled. On the right, the 'Szenen' (Stage) area shows a cat character. Below the stage, there are controls for the character, including 'Figure' (Figure), 'Zeige dich' (Show me), 'Größe' (Size), and 'Richtung' (Direction). The 'Bühne' (Stage) area also includes a 'Szenenbilder' (Stage images) list.

The screenshot displays the Scratch programming interface. The left sidebar shows the 'Klang' (Sound) category selected, with various sound-related blocks. The main workspace contains a script starting with a 'Wenn angeklickt wird' (When clicked) block, followed by a 'Geh 10 Schritte' (Move 10 steps) block. The right sidebar shows the 'Figuren' (Sprites) area with a cat sprite selected, and the 'Drehen' (Rotation) settings.

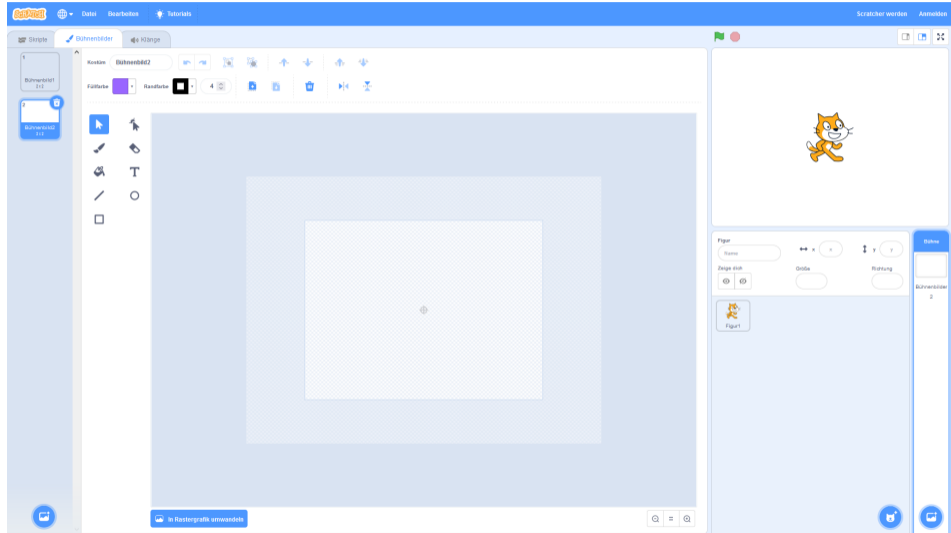
Scratch Interface Elements:

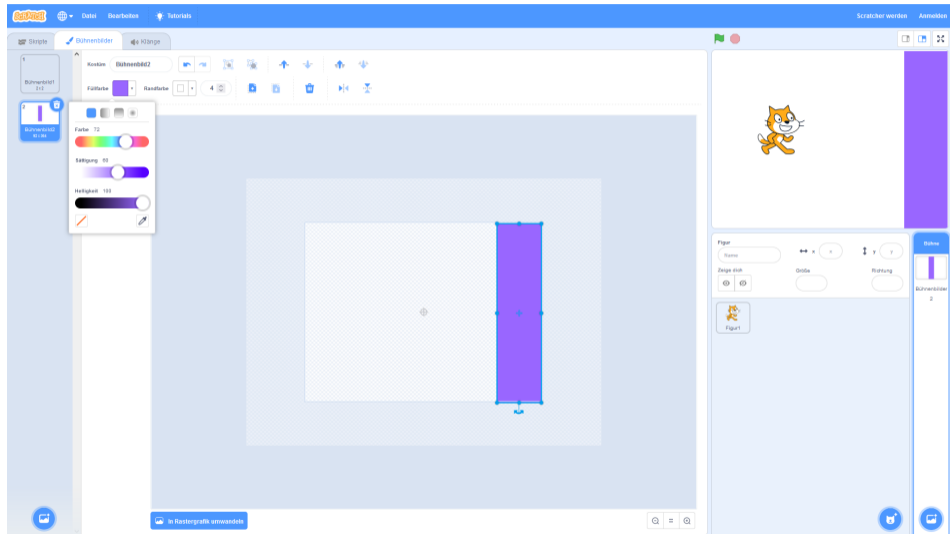
- Top Bar:** Scratch logo, Datei, Bearbeiten, Tutoriale, Scratcher werden, Anmelden
- Left Sidebar (Klang):**
 - Beziehung
 - Aussehen
 - Klang
 - spiele Klang... Max + gatt
 - spiele Klang... Max +
 - klappe alle Klänge
 - Ergebnisse
 - Wiederholung
 - Funktion
 - Operatoren
 - Variablen
 - Meine Blöcke
- Main Workspace:**
 - Wenn angeklickt wird
 - Geh 10 Schritte
- Right Sidebar (Figuren):**
 - Figuren: Figur1
 - Zeige dich:
 - Größe: 100
 - Richtung: 90
 - Drehen:
 - Bühnenbilder: 1

The screenshot displays the Scratch 2.0 web interface. The top navigation bar includes 'Scratch!', 'Datei', 'Bearbeiten', 'Tutorials', 'Scratcher werden', and 'Anmelden'. The left sidebar shows the 'Klänge' (Sounds) palette with categories like 'Bewegung', 'Aussehen', 'Klang', 'Ereignisse', 'Operationen', 'Variablen', and 'Meine Blöcke'. The main workspace contains a script with two blocks: a yellow 'Wenn grüner Flagge angeklickt wird' block followed by a blue 'gehe 100 Schritte' block. The right sidebar shows the 'Figur' (Sprite) area with a 'Figur1' block and a 'Bühne' (Stage) area with a 'Bühnenbild 1' block. The bottom right corner features a 'Scratch' logo and a 'Scratch' button.

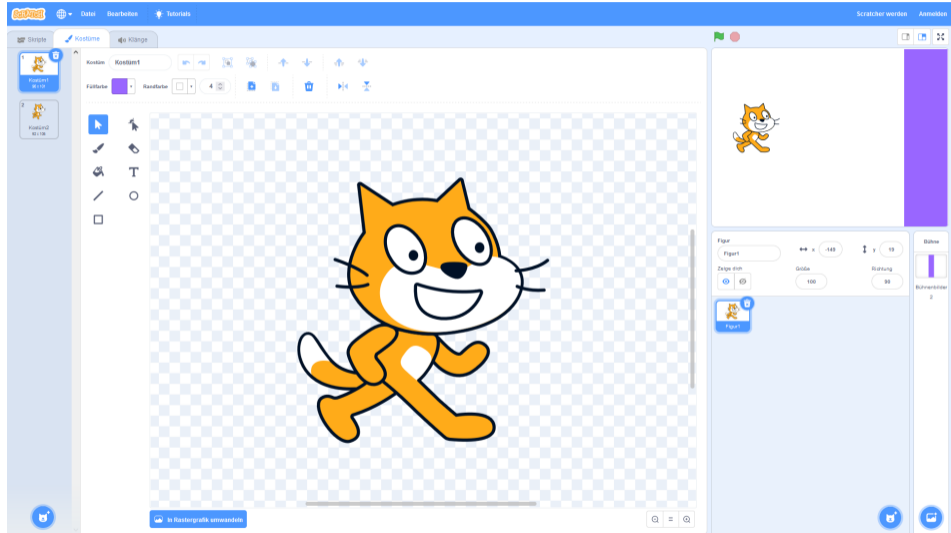
The screenshot displays the Scratch programming environment. The interface is divided into several sections:

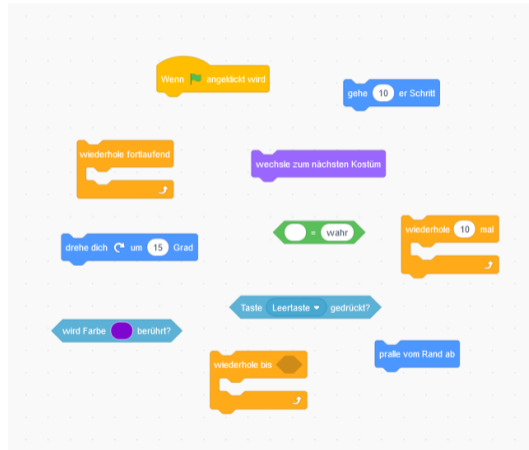
- Top Bar:** Contains the Scratch logo, a globe icon, and menu options: "Datei", "Bearbeiten", "Tutorials", "Scratcher werden", and "Anmelden".
- Left Panel (Library):** A vertical sidebar with categories: "Klang" (Sound), "Bewegung" (Motion), "Aussehen" (Appearance), "Kolor" (Color), "Ereignisse" (Events), "Steuerung" (Control), "Fokus" (Focus), "Operationen" (Operators), "Variablen" (Variables), and "Meine Blöcke" (My Blocks). The "Klang" category is selected, showing various sound-related blocks.
- Script Editor:** A large workspace with a grid background. It contains a script starting with a "Wenn grüner Flagge angeklickt wird" (When green flag clicked) event block, followed by several "setze Lautstärke auf" (set volume to) blocks with values like 10, 100, and 100%.
- Stage:** A white rectangular area where the cat sprite is currently positioned.
- Sprite Panel:** Located at the bottom right, it shows the "Figur" (Sprite) dropdown menu with "Figur1" selected. It also includes options for "Zeige dich" (Show), "Größe" (Size), and "Richtung" (Direction).
- Bottom Right:** A green button labeled "Bühnenbild wählen" (Choose stage image) and a small icon for "Bühnenbild 2".





The screenshot displays the Scratch programming interface. The top navigation bar includes 'Datei', 'Bearbeiten', 'Tutorials', 'Scratcher werden', and 'Anmelden'. The left sidebar contains categories: 'Sätze', 'Kostüme', 'Hilfen', 'Bewegung', 'Aussehen', 'Klang', 'Ereignisse', 'Steuerung', 'Funktionen', and 'Variablen'. Under 'Variablen', there are options for 'Neue Variable' and 'meine Variable'. The 'meine Variable' section shows several blocks: 'setze meine Variable auf 1', 'ändere meine Variable um 1', 'zähle meine Variable', and 'verstecke Variable meine Variable'. The 'Meine Blöcke' section has 'Neuer Block'. The main workspace shows a script with two blocks: 'sich umdrehen' (orange) and 'sich 10 Schritte bewegen' (blue). The stage area shows the Scratch cat character. The bottom right corner features a 'Bühne' (Stage) panel with 'Figur' (Figure) set to 'Figur1', 'Zeige dich' (Show self) checked, 'Größe' (Size) set to 100, and 'Wartung' (Maintenance) set to 99. The 'Bühnenbild' (Stage background) is set to '2'.





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Aufgaben

Bearbeitet nun die Aufgaben auf dem Arbeitsblatt

Bearbeitungszeit bis 08:34 Uhr

Ergebnisse besprechen

Passwort: **Scratch**

Danke für eure Mitarbeit
