

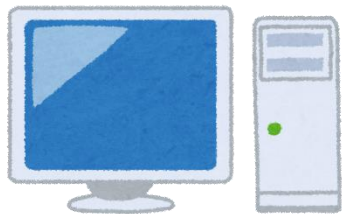
オンライン対戦ゲームを つくろう!

~クライアント/サーバシステムで問題解決~

使用するもの

プログラムを作るとき

PC1



プログラミングで使用

Smalruby



使用するアプリ

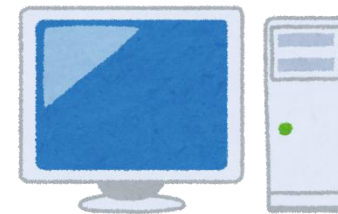
プログラムで遊ぶとき

PC1



クライアント1で使用

PC2



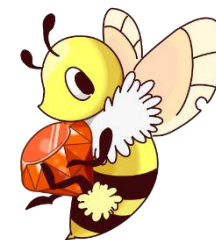
クライアント2で使用

PC3



サーバに使用

Smalruby



使用するアプリ

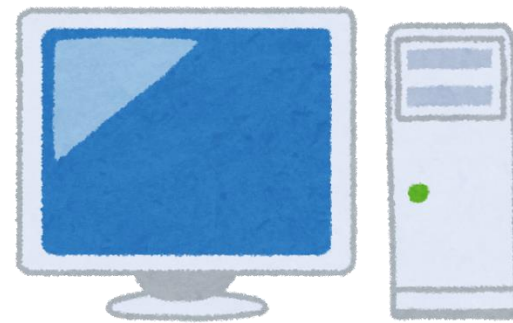
動画の内容

- ① サンプルプログラムに従ってプログラミングしよう。
- ② プログラムを実行して、制作したプログラムのデバッグをする。
- ③ サンプルプログラムを改良する。

クライアント1



サーバ



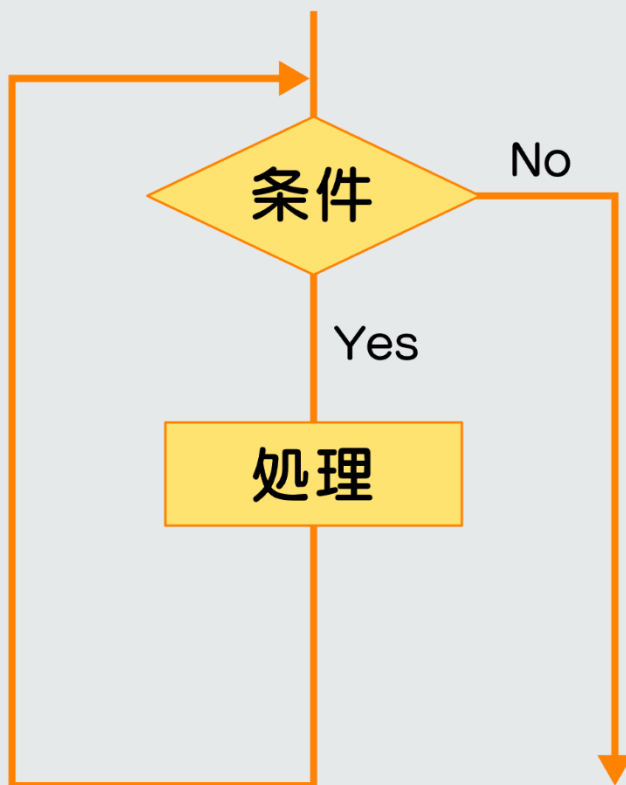
クライアント2



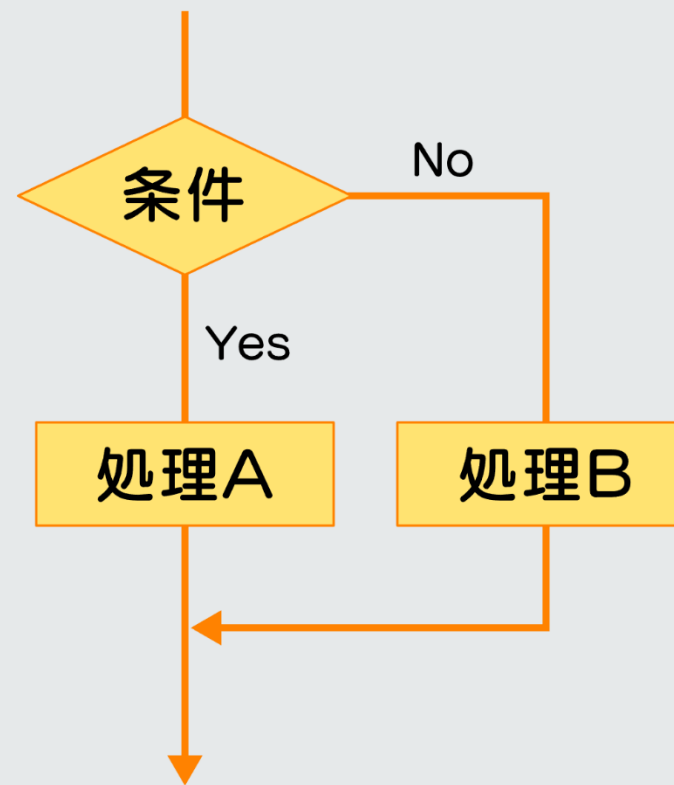
【1】順次



【2】繰り返し (反復)



【3】条件分岐 (分岐)



クライアント | 赤いハートのプログラム完成形

The screenshot displays the Scratch programming environment with the following components:

- Top Bar:** Includes icons for settings (設定), file (ファイル), edit (編集), a project title "002 基礎編クライアント...", and a tutorial icon (チュートリアル).
- Left Panel:** A sidebar with icons for "動き" (Motion), "見た目" (Looks), "音" (Sound), "イベント" (Events), "制御" (Control), "調べる" (Sensing), "演算" (Operators), "変数" (Variables), and "ブロック定義" (Block Definition).
- Main Stage:** A large workspace with a grid background. It contains several scripts:
 - Script 1 (Left):** Triggered by "が押されたとき" (When clicked), it sends a "準備完了" (Ready) message.
 - Script 2 (Middle-Left):** Triggered by "カウントダウン" (Countdown), it sets "ゲームスタートまで" (Time until game start) to 5, enters a loop to set "ゲームスタートまで" to 0, waits 1 second, and then decreases "ゲームスタートまで" by 1.
 - Script 3 (Middle-Right):** Triggered by "動作開始" (Action start), it sends a "赤ハート上" (Red heart up) message and waits 0.05 seconds.
 - Script 4 (Bottom-Left):** Triggered by "カウントダウン", it rotates the sprite, sets coordinates to (-198, -52), waits 5 seconds, and displays the sprite.
 - Script 5 (Bottom-Middle):** Triggered by "動作開始", it sends a "赤ハート右" (Red heart right) message and waits 0.05 seconds.
 - Script 6 (Bottom-Right):** Triggered by "動作開始", it sends a "赤ハート左" (Red heart left) message and waits 0.05 seconds.
- Right Panel:** A preview window showing the game's visual state:
 - Score:** "ゲームスタートまで" (Time until game start) is 0.
 - Sprite:** A robot character is positioned at the top center.
 - Stage:** A purple heart is visible on the right side.
 - Sprite Properties:** The "Heart" sprite is selected, with x-coordinate -168, y-coordinate 8, size 20, and direction 90.
 - Stage Properties:** The background is set to "背景" (Background) with a value of 5.

クライアント | 紫のハートのプログラム完成形

The screenshot displays a programming environment with a purple-themed interface. The main workspace contains a script for a character named 'Heart2'. The script is as follows:

- When green flag clicked (Event)
- Set game start counter to 0 (Variable)
- Move to a specific location (Motion)
- When the purple heart is clicked (Event)
- Change y-coordinate by 10 (Motion)
- When the purple heart is clicked (Event)
- Change y-coordinate by -10 (Motion)
- When the purple heart is clicked (Event)
- Change x-coordinate by 10 (Motion)
- When the purple heart is clicked (Event)
- Change x-coordinate by -10 (Motion)
- When the purple heart is clicked (Event)
- Countdown (Event)
- Hide (Control)
- Set x and y coordinates to 37 and -54 (Motion)
- Wait 5 seconds (Control)
- Show (Control)

The right-hand side of the interface shows the 'Sprite' panel with 'Heart2' selected, and the 'Stage' panel showing a purple heart on a white background. The top bar includes menu options like '設定' (Settings), 'ファイル' (File), '編集' (Edit), and 'チュートリアル' (Tutorial).

クライアント2 紫のハートのプログラム完成形

The image displays the Scratch programming environment with the following components:

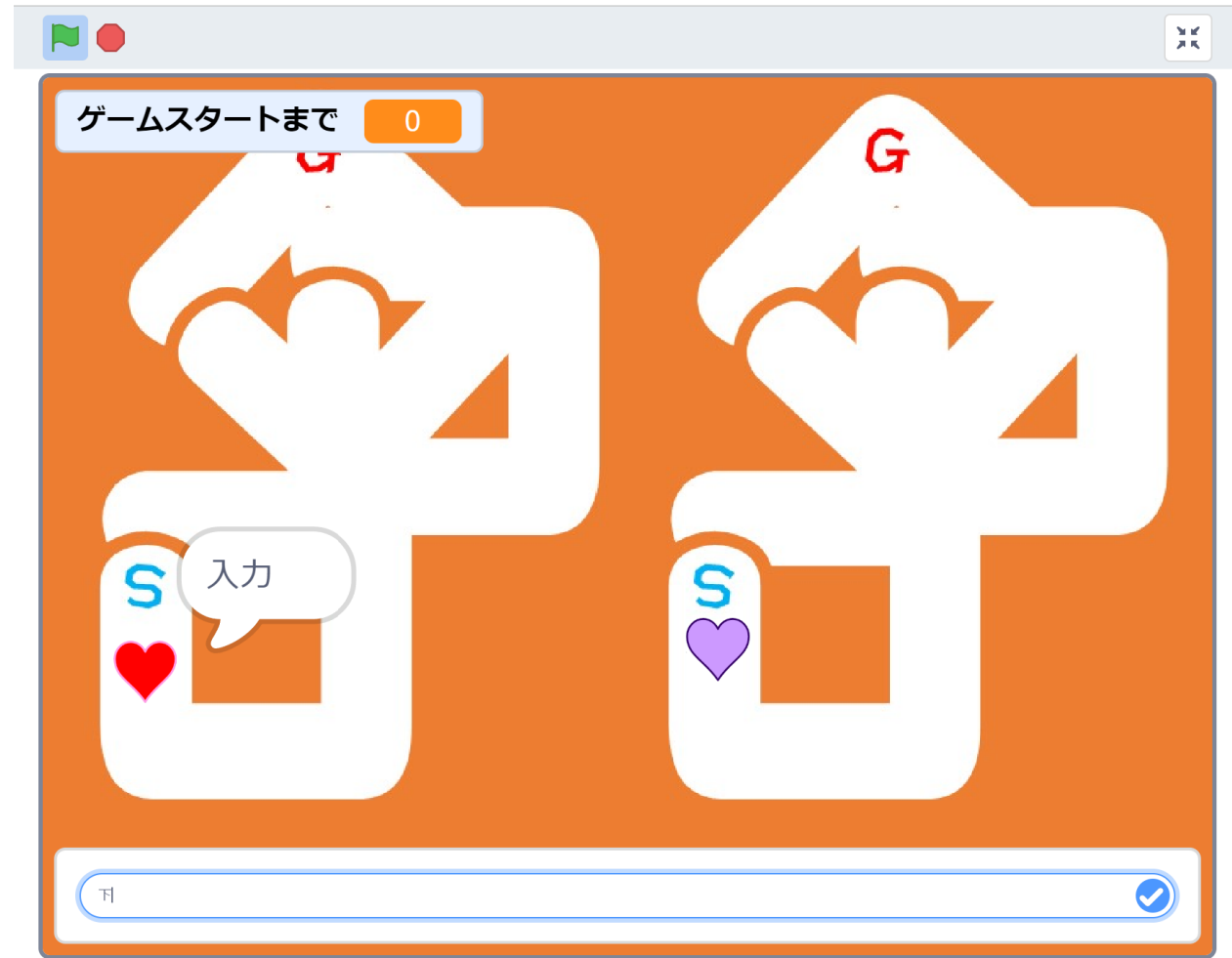
- Top Bar:** Includes menu options like '設定' (Settings), 'ファイル' (File), '編集' (Edit), and the current project name '003 基礎編クライアント...'. A 'チュートリアル' (Tutorial) icon is also present.
- Left Panel (Costume and Sound):** Shows the 'コスチューム' (Costume) tab with various block categories: '動き' (Motion), '見た目' (Looks), '音' (Sound), 'イベント' (Events), '制御' (Control), '調べる' (Sensing), '演算' (Operators), '変数' (Variables), and 'ブロック定義' (Block Definition).
- Main Stage:** The central workspace where the purple heart character is positioned. A 'ゲームスタートまで' (Until Game Starts) variable is set to 0. The heart is currently at the top of the stage.
- Right Panel (Sprite and Stage):** Shows the 'スプライト' (Sprite) panel with 'Heart2' selected, displaying its coordinates (x: 37, y: -54) and size (20). The 'ステージ' (Stage) panel shows the background is set to '5'.
- Code Area:** The main workspace contains several scripts:
 - When Green Flag Clicked:** A '準備完了' (Ready) message is sent.
 - When Game Starts:** A 'ゲームスタートまで' variable is set to 5, and a loop sets it to 0. A 1-second wait block follows, then the variable is decremented by 1, and a 'スタート' (Start) message is sent.
 - When '準備完了' is Received:** A 'カウントダウン' (Countdown) block is triggered, which sets the variable to 5, waits 1 second, and then sends a 'スタート' message.
 - When 'スタート' is Received:** A 'カウントダウン' block is triggered, which sets the variable to 5, waits 5 seconds, and then displays the heart.
 - When '紫ハート上' (Purple Heart Up) is Received:** A 'ずっと' (Forever) loop that checks for the '上向き矢印' (Up Arrow) key. If pressed, it moves the heart up by 10 units and sends a '紫ハート上' message. A 0.05-second wait block is included.
 - When '紫ハート下' (Purple Heart Down) is Received:** A 'ずっと' (Forever) loop that checks for the '下向き矢印' (Down Arrow) key. If pressed, it moves the heart down by 10 units and sends a '紫ハート下' message. A 0.05-second wait block is included.
 - When '紫ハート左' (Purple Heart Left) is Received:** A 'ずっと' (Forever) loop that checks for the '左向き矢印' (Left Arrow) key. If pressed, it moves the heart left by 10 units and sends a '紫ハート左' message. A 0.05-second wait block is included.
 - When '紫ハート右' (Purple Heart Right) is Received:** A 'ずっと' (Forever) loop that checks for the '右向き矢印' (Right Arrow) key. If pressed, it moves the heart right by 10 units and sends a '紫ハート右' message. A 0.05-second wait block is included.

クライアント2 赤いハートのプログラム完成形

The screenshot displays the Scratch programming environment with the following components:

- Menu Bar:** Includes icons for settings (設定), file (ファイル), edit (編集), a project name "003 基礎編クライアント...", and a tutorial icon (チュートリアル).
- Stage:** Shows a robot character and a red heart character. A "ゲームスタートまで 0" (Game start) counter is visible at the top right of the stage.
- Code Area:** Contains the following script blocks:
 - When Green Flag Clicked:** A sequence of blocks including "どこかの場所へ行く" (Go to some location), "x座標を -168、y座標を 8 にする" (Set x to -168, y to 8), "1秒でどこかの場所へ行く" (Go to some location in 1 second), "1秒でx座標を -168 に、y座標を" (Set x to -168, y to...), "90度に向ける" (Turn 90 degrees), and "マウスのポインターへ向ける" (Point mouse pointer).
 - When Red Heart is Clicked (Top Left):** "赤いハート上を受け取ったとき" (When red heart top is clicked) followed by "y座標を 10 ずつ変える" (Increase y by 10).
 - When Red Heart is Clicked (Top Right):** "赤いハート下を受け取ったとき" (When red heart bottom is clicked) followed by "y座標を -10 ずつ変える" (Decrease y by 10).
 - When Red Heart is Clicked (Bottom Left):** "赤いハート右を受け取ったとき" (When red heart right is clicked) followed by "x座標を 10 ずつ変える" (Increase x by 10).
 - When Red Heart is Clicked (Bottom Right):** "赤いハート左を受け取ったとき" (When red heart left is clicked) followed by "x座標を -10 ずつ変える" (Decrease x by 10).
 - When Countdown is Clicked:** "カウントダウンを受け取ったとき" (When countdown is clicked) followed by "隠す" (Hide), "x座標を -198、y座標を -52 にする" (Set x to -198, y to -52), "5秒待つ" (Wait 5 seconds), and "表示する" (Show).
- Sprite Area:** Shows the "Heart" sprite selected, with its position set to x: -168, y: 8, size: 20, and direction: 90. Other sprites like "Heart2" and "Robot" are also visible.
- Stage Area:** Shows the stage with a red heart character and a purple heart character.

小学生のタイピングスキル向上のためのプログラム



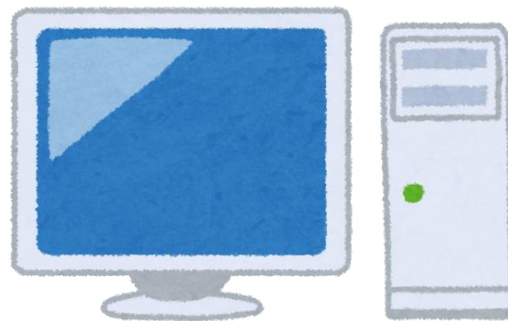
ふりかえり

① クライアント/サーバシステムについて

クライアント1



サーバ



クライアント2



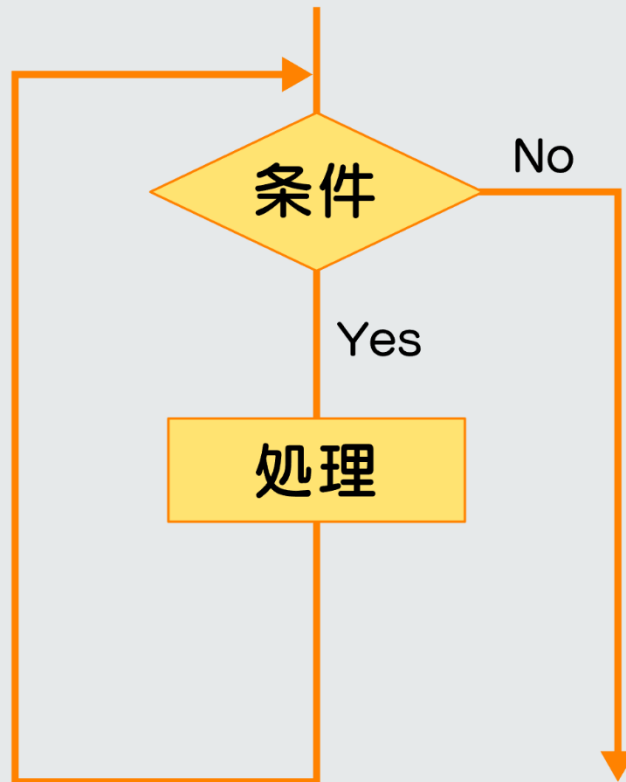
ふりかえり

② プログラムの基本的な構造について

【1】 順次



【2】 繰り返し (反復)



【3】 条件分岐 (分岐)

