

Digital Skills Academy

FUNDAMENTALS OF PROGRAMMING

STAR CHALLENGE



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Are you a star?



**Have you
programmed before**

**Have you developed
a website or web app**

What are you ?



Star

Programmed
before

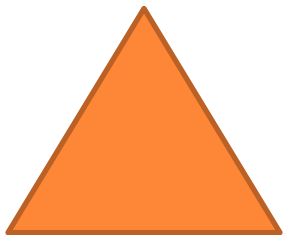
Java, C\C++,
C#, Python, PHP,
Ruby,
javascript/node.js



rising star

Sort of programmed
before

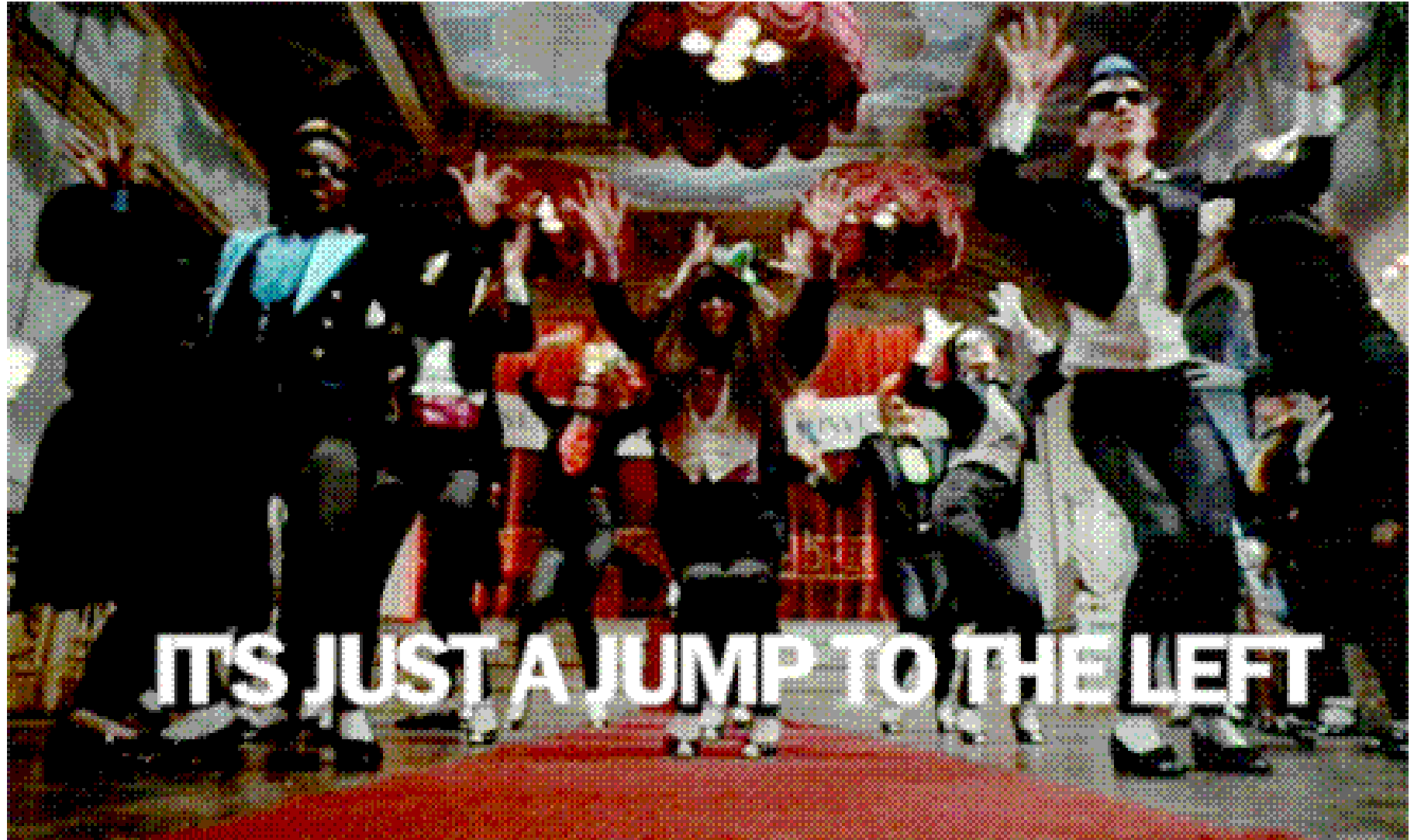
Web site development
HTML5\CSS\ Javascript\ JQuery
Fortran, Cobol, C , Pascal, VB



Launch Pad
Ready

No programming
experience

Stars take a step to the left



http://25.media.tumblr.com/tumblr_lmpmrDLYb1qbz6ixo1_500.gif

A variation on the mastermind game



The Star Jam Challenge

STAGE 1: Build it as per spec below with text based display

Build a game of code breaker

The game starts by choosing the code patch which is a sequence of four colours from the following available colours red (R), orange (O), yellow (Y), green (G), blue (B), Indigo (I), and violet (V). The code patch is not displayed to the user only 4 lines are displayed (_ _ _ _) and lives = 8.

The user enters a string of four characters which is their guess at the sequence of 4 letters chosen by the computer.

The user input is compared to the code patch and the following feedback is provided:

- If the two code patches match, the game says **YOU WIN, do you want to play again (Y/N)?**
- If one or more colours between the two colour patches match, display the positions where the colours match. If the colour is correct but the position is wrong for one or more colours give the user a clue as to how many colours there are in the in the users patch that are not in the correct position. If the same colour is used twice in the users patch and twice in the computers patch but the positions are wrong the clue will have a value of 2. if the colour patch has not been guessed then a life is lost and the user is asked : **Enter a sequence a 4 character sequence from ROYGBIV or 0 to exit:**
- If the number of lives is zero following this guess and the user has not won, then display. **YOU LOOSE, do you want to play again (Y/N)?**
- If instead of entering in a code sequence the user enters 0, or there are 0 in the code patch entered, exit the game (boss kill switch)
- If the same sequence is entered twice or more, inform the user that duplicate patches are not allowed and ask then to re enter a new code patch. No life is lose for a duplicate entry.

Display the game as per the example screens on the next page.

STAGE 2: If you have time before the deadline and stage 1 is built

Create a graphical version of the game

The code breaker screens

Lives: 8

Code: _ _ _ _ Guessed : _ _ _ _ Clues:

Enter a sequence a 4 character sequence from ROYGBIV or 0 to exit:

Lives: 4

Code: _ _ _ _ Guessed : _ _ _ _ Clues:

Code: R _ _ _ Guessed : R O Y G Clues: 1

Code: R _ _ _ Guessed : R B G I Clues: 2

Code: R G _ _ Guessed : R G V I Clues: 2

Code: R G I V Guessed : R G I V Clues: 0

YOU WIN !!

Play again Y/N:

Lives: 0

:

:

Code: R _ _ _ Guessed : R V V V Clues: 0

YOU LOOSE the code was : R G I V

Play again Y/N:

- You can use any programming language you like
- You have until 11:59am on Saturday in which to complete the challenge and submit the code on moodle.
- You can go now with Paul to the appDev room
- When submitting, submit a zip on moodle that contains
 - The code
 - A compiled version or link to online version
 - Make sure any code used or any sites you visited are referenced as comments in the code