

The City School

North Nazimabad Boys Campus



ICT Worksheet

Topic: Scratch

Level=8

PACMAN GAME CODING

Pacman moves up,down,left and right and not cross the wall

The image shows the Scratch code editor and game preview for a Pacman game. The code is organized into four scripts, each triggered by a 'when green flag clicked' event.

- Top Left Script:** A 'forever' loop containing an 'if key up arrow pressed?' block. Inside, it moves 2 steps, changes to the next costume, points in direction 0, and if touching a blue wall, moves -4 steps.
- Top Right Script:** A 'forever' loop containing an 'if key right arrow pressed?' block. Inside, it moves 2 steps, changes to the next costume, points in direction 90, and if touching a blue wall, moves -4 steps.
- Bottom Left Script:** A 'forever' loop containing an 'if key down arrow pressed?' block. Inside, it moves 2 steps, changes to the next costume, points in direction 180, and if touching a blue wall, moves -4 steps.
- Bottom Right Script:** A 'forever' loop containing an 'if key left arrow pressed?' block. Inside, it moves 2 steps, changes to the next costume, points in direction -90, and if touching a blue wall, moves -4 steps.

The game preview on the right shows a Pacman character in a maze with red dots (food) and a score of 0 and lives of 0. The sprite list at the bottom right includes 'packma...' (Pacman) and 'food 1' through 'food 10' (red dots).

Food Coding

The image shows the Scratch interface for a project named "packman". On the left, the Scripts area is open for the "food 1" sprite. The script is as follows:

```
when green flag clicked
  show
  set score to 0
  forever loop
    if touching packman
      change score by 1
      hide
```

On the right, a preview of the maze game is shown. The score is 0. The maze contains several red dots representing food. Below the preview, the "New sprite" area shows the "packman" and "food 1" sprites.

Ghost Coding

The image shows the Scratch interface for the "packman" project. On the left, the Scripts area is open for the "dragon" sprite. The script is as follows:

```
when green flag clicked
  forever loop
    hide
    go to x: -184 y: 133
    show
    glide 1 secs to x: -220 y: -166
    next costume
    glide 1 secs to x: 190 y: 142
```

On the right, a preview of the maze game is shown. The score is 0, lives are 0, and a countdown is at 19. A green dragon ghost is visible in the maze. Below the preview, the "New sprite" area shows a grid of 19 "food" sprites and the "dragon" sprite.

Lives and Countdown Coding

The image displays two Scratch code blocks and a portion of the sprite panel. The left code block is a 'when green flag clicked' event that sets a 'countdown' variable to 30. It enters a 'forever' loop where it waits 1 second and then decreases the 'countdown' variable by 1. When the 'countdown' reaches 0, it says 'Time out for 2 secs' and then stops all sprites. The right code block is also a 'when green flag clicked' event that sets a 'lives' variable to 0. It enters a 'forever' loop where it checks if the sprite is touching a 'dragon' sprite. If so, it decreases the 'lives' variable by 1, waits 1 second, and checks if 'lives' is 0. If true, it says 'game over for 2 secs' and stops all sprites. The right side of the image shows the 'New sprite' panel with a 'Pac-Man' sprite selected and a grid of 16 red circular 'food' sprites labeled 'food 1' through 'food 16'. A 'Stage' icon is also visible.

TENNIS BALL CODING

Ball Coding

The image displays the Scratch development environment for a tennis game. On the left, the 'Scripts' tab is active, showing two event-driven code blocks for 'Sprite1'.

Code Block 1 (Left):

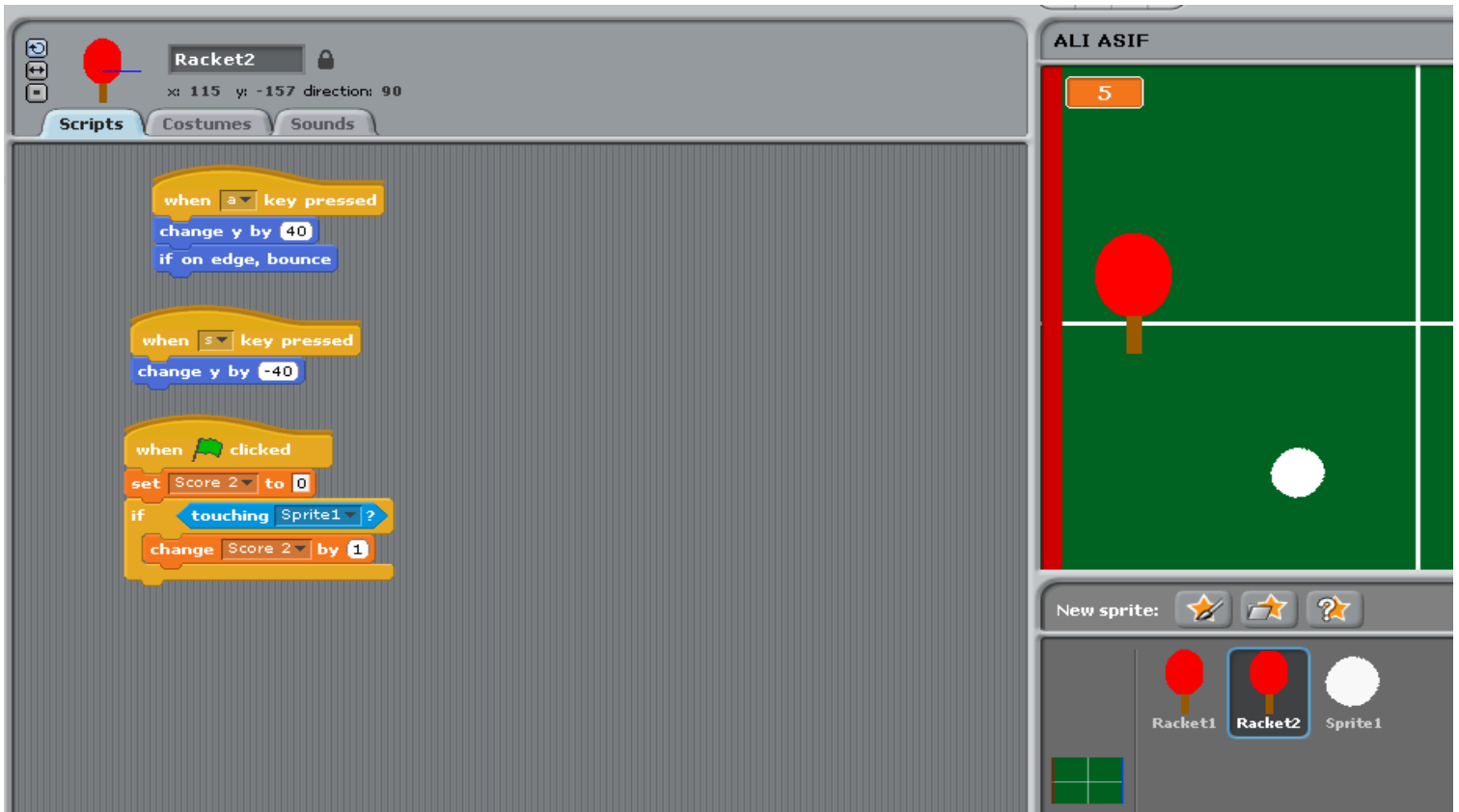
- when green flag clicked
- point in direction 45
- forever loop:
 - move 10 steps
 - if on edge, bounce
 - if touching Racket1?
 - point towards Racket2
 - change score 1 by 1
 - turn 15 degrees
 - if on edge, bounce
 - if touching Racket2?
 - point towards Racket1
 - change score 2 by 1
 - turn 60 degrees

Code Block 2 (Right):

- when green flag clicked
- forever loop:
 - if touching color red? or touching color blue?
 - say game over for 2 secs
 - stop all

On the right, the 'Stage' area shows a green tennis court with a red racket on the left and a white ball in the center. A score of 5 is displayed in the top left corner. The 'New sprite' area at the bottom right shows three sprites: Racket1 (red racket), Racket2 (red racket), and Sprite1 (white ball).

Racket Coding

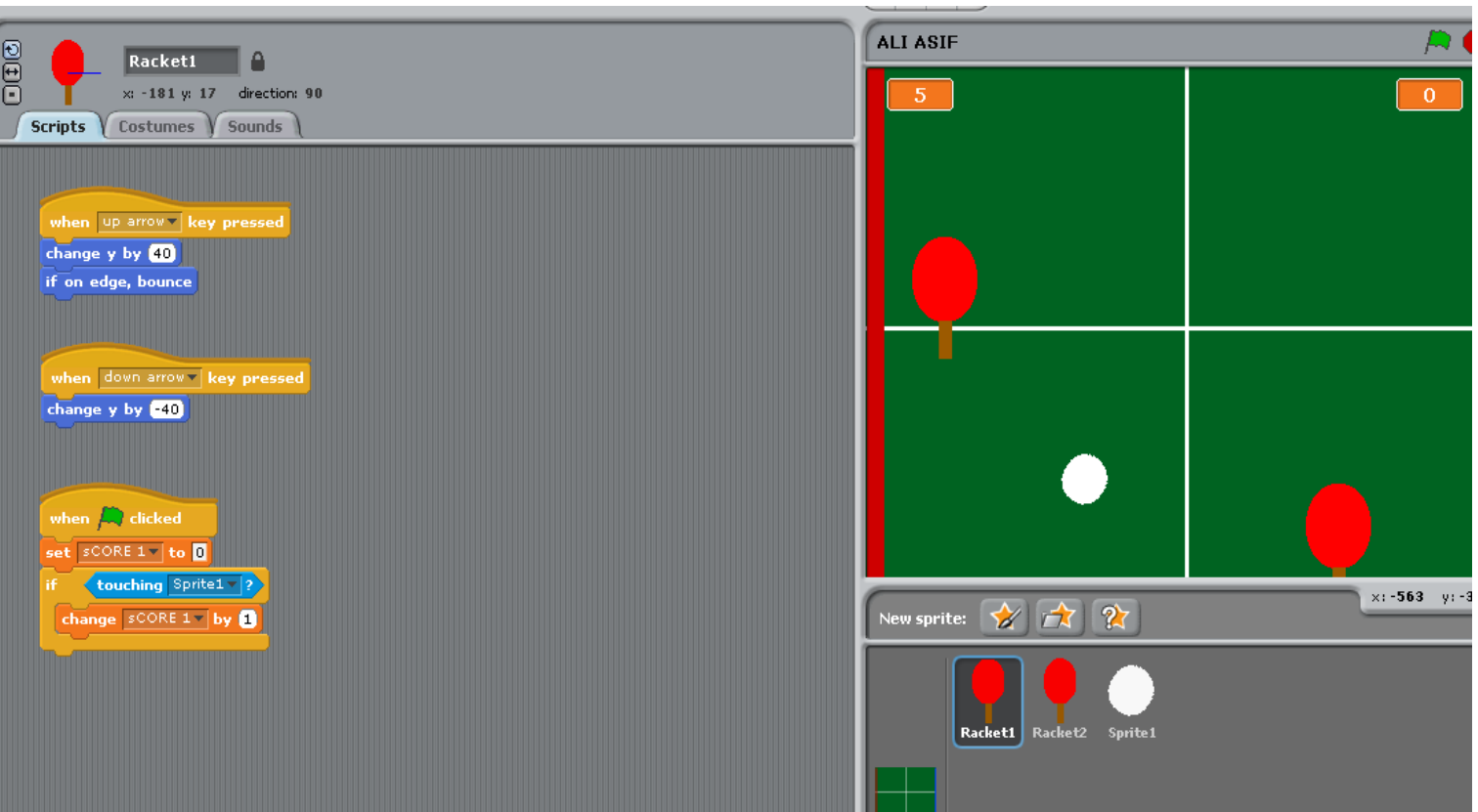


The top-left panel shows the 'Racket2' sprite editor. The sprite is a red racket with a wooden handle, positioned at x: 115, y: -157, with a direction of 90. The 'Scripts' tab is active, showing three event-driven scripts:

- when a key pressed:** change y by 40, if on edge, bounce.
- when s key pressed:** change y by -40.
- when clicked:** set Score 2 to 0, if touching Sprite1, change Score 2 by 1.

The top-right panel shows the 'ALI ASIF' stage. A score of 5 is displayed in the top-left corner. A red racket (Racket2) is on the left side of the stage, and a white ball (Sprite1) is in the center.

The bottom-right panel shows the 'New sprite:' area with three options: Racket1, Racket2 (selected), and Sprite1.



The top-left panel shows the 'Racket1' sprite editor. The sprite is a red racket with a wooden handle, positioned at x: -181, y: 17, with a direction of 90. The 'Scripts' tab is active, showing three event-driven scripts:

- when up arrow key pressed:** change y by 40, if on edge, bounce.
- when down arrow key pressed:** change y by -40.
- when clicked:** set SCORE 1 to 0, if touching Sprite1, change SCORE 1 by 1.

The top-right panel shows the 'ALI ASIF' stage. A score of 5 is displayed in the top-left corner, and a score of 0 is displayed in the top-right corner. A red racket (Racket1) is on the left side of the stage, and a white ball (Sprite1) is in the center. A second red racket (Racket2) is on the right side of the stage.

The bottom-right panel shows the 'New sprite:' area with three options: Racket1 (selected), Racket2, and Sprite1. The coordinates x: -563, y: -3 are visible in the bottom right corner of the stage area.

SNAKE GAME

The image shows the Scratch script editor for a snake game. The stage is titled "Sprite5" and shows a snake head sprite at x: 22, y: 68, direction: 90. The "Scripts" tab is selected.

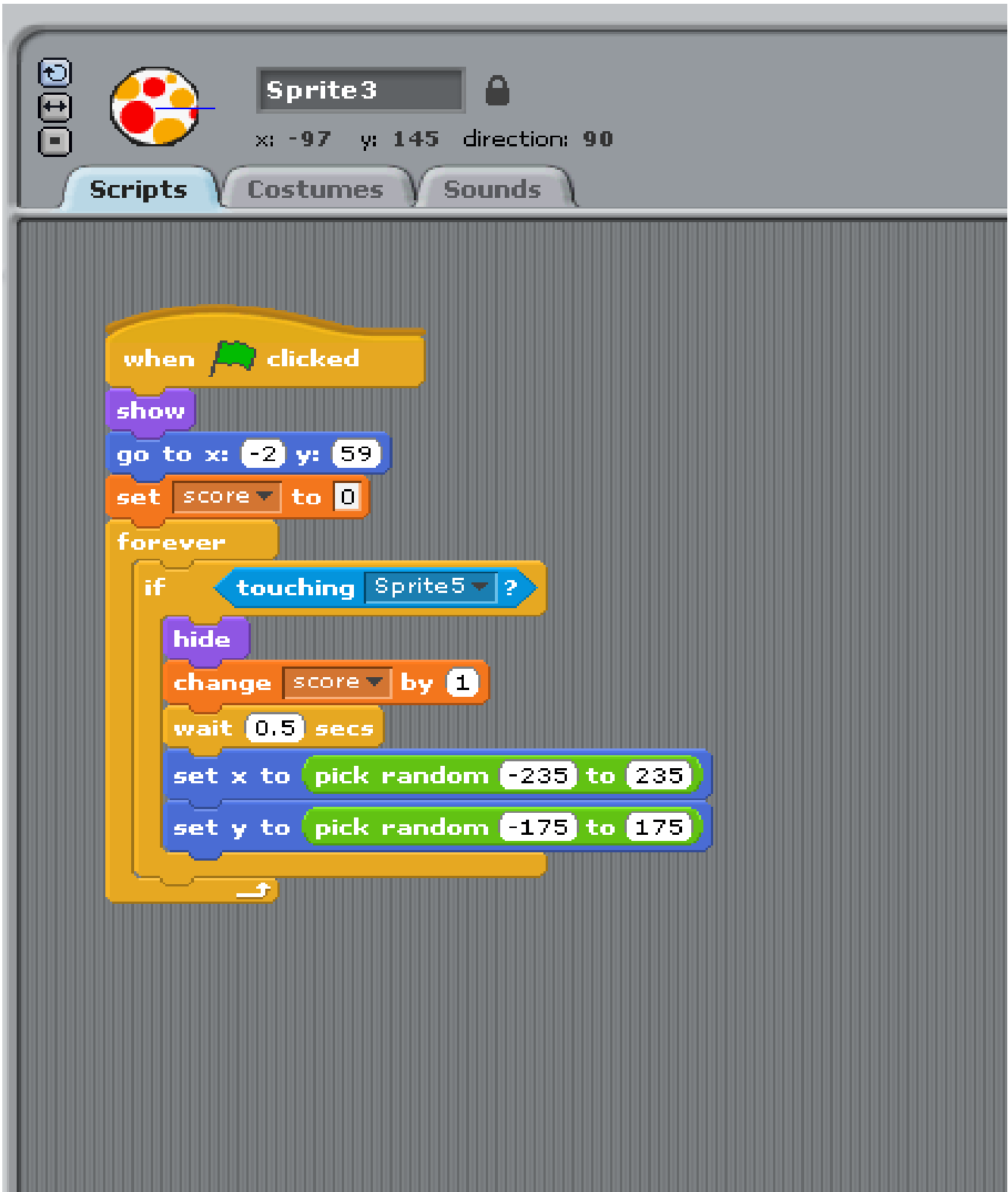
Left Script (Movement and Drawing):

- when green flag clicked
- point in direction 0
- go to x: -8 y: -2
- clear
- set pen color to red
- change pen size by 1
- pen down
- forever loop:
 - move 10 steps
 - add x position to xpos
 - add y position to ypos
 - if key up arrow pressed? → point in direction 0
 - if key down arrow pressed? → point in direction 180
 - if key right arrow pressed? → point in direction 90
 - if key left arrow pressed? → point in direction -90

Right Script (Game Over Detection):

- when green flag clicked
- forever loop:
 - if touching edge? → say GAME OVER !!! for 2 secs → stop all

Snake Food Coding



The image shows the Scratch interface for a sprite named "Sprite 3". The sprite is a red and yellow polka-dot circle. The current script in the "Scripts" tab is as follows:

```
when clicked
  show
  go to x: -2 y: 59
  set score to 0
  forever
    if touching Sprite5?
      hide
      change score by 1
      wait 0.5 secs
      set x to pick random -235 to 235
      set y to pick random -175 to 175
```

The script starts with a "when clicked" event. It then shows the sprite and moves it to the coordinates (-2, 59). A "score" variable is set to 0. A "forever" loop follows, which checks if the sprite is touching "Sprite5". If it is, the sprite is hidden, the score is increased by 1, it waits for 0.5 seconds, and its x and y coordinates are set to random values between -235 and 235 for x, and -175 and 175 for y.