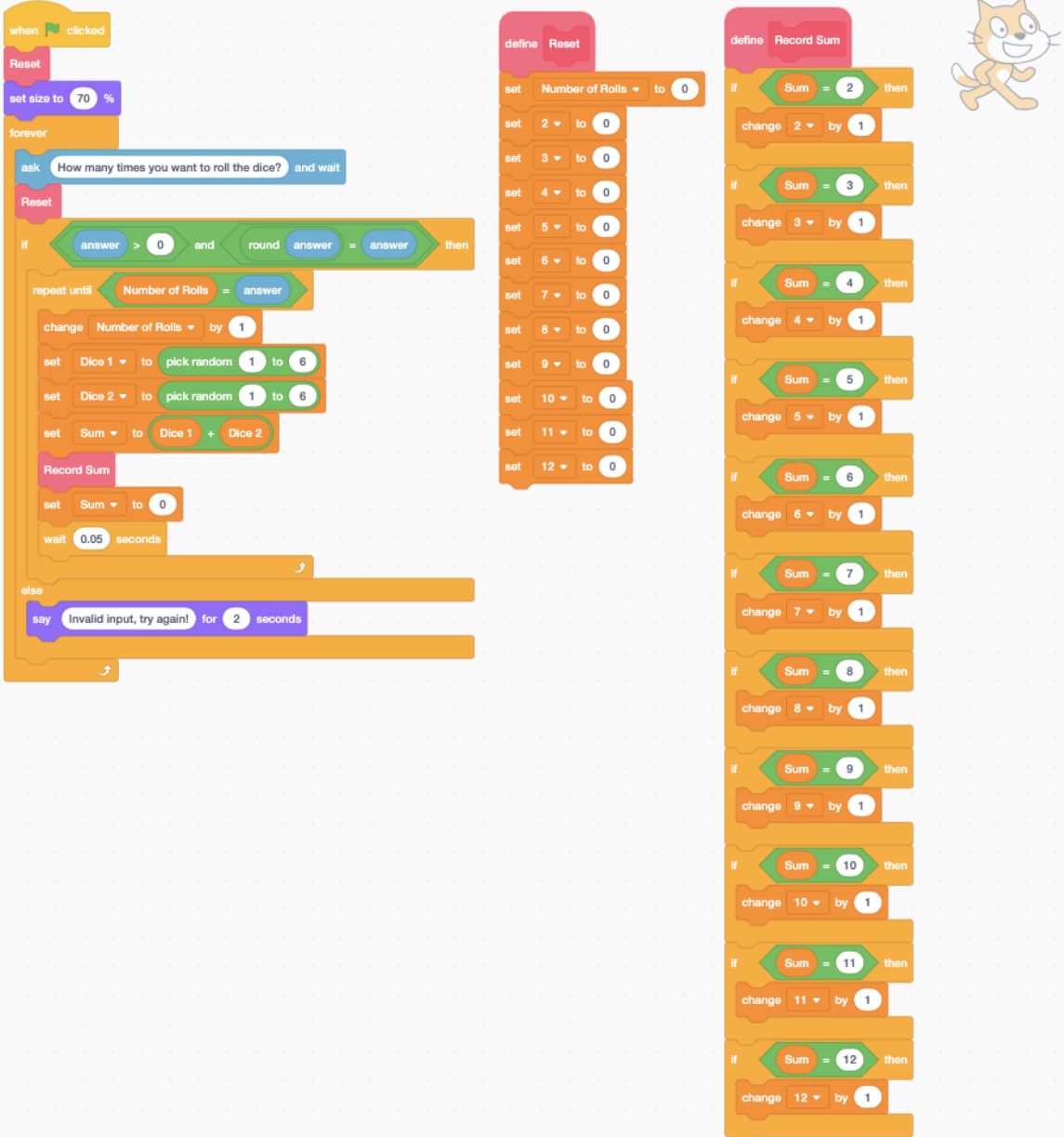


Activity 2 – Rolling 2 dice

Cat – (Version 1) Using variables




The image displays a Scratch script for a dice rolling simulation, organized into three main sections: a main loop, a 'Reset' function, and a 'Record Sum' function.

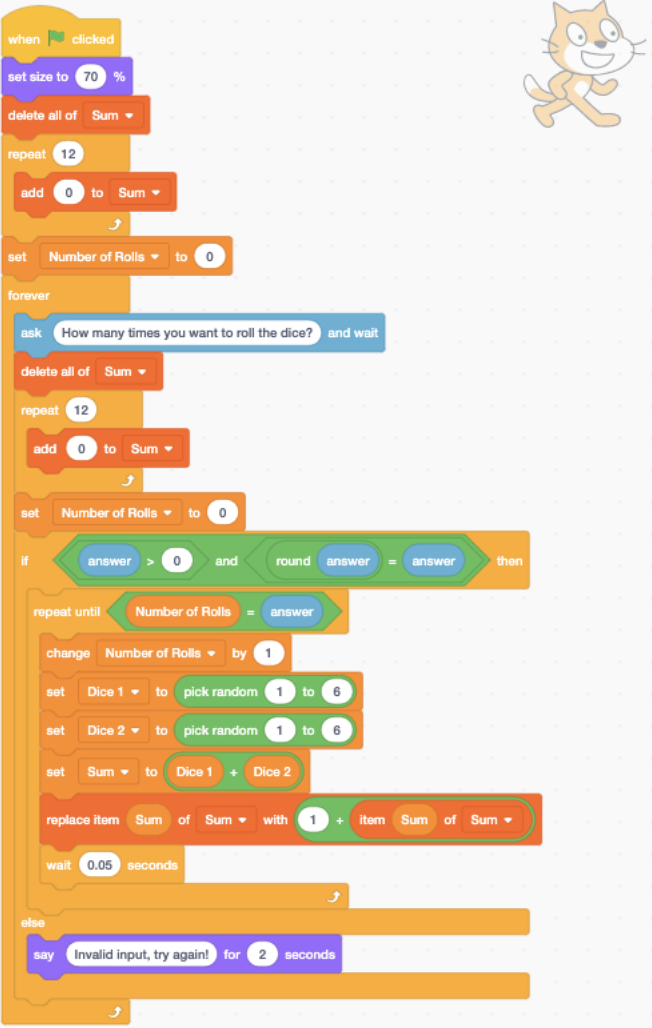
Main Loop: The script begins with a 'when clicked' event. It includes a 'Reset' block, a 'set size to 70%' block, and a 'forever' loop. Inside the loop, it asks the user 'How many times you want to roll the dice?' and waits. After another 'Reset' block, it checks if the answer is greater than 0 and a whole number. If true, it enters a 'repeat until' loop where the 'Number of Rolls' variable equals the user's input. Each iteration increments the 'Number of Rolls' by 1, sets two dice to random values between 1 and 6, calculates their sum, and calls the 'Record Sum' function. If the input is invalid, it says 'Invalid input, try again!' for 2 seconds.

Reset Function: A 'define' block named 'Reset' sets 12 variables (Number of Rolls, Dice 1, Dice 2, and Sum) to 0.

Record Sum Function: A 'define' block named 'Record Sum' uses a series of 'if' statements to check the current sum (from 2 to 12) and increments a corresponding variable (e.g., 'change 2 by 1') by 1.



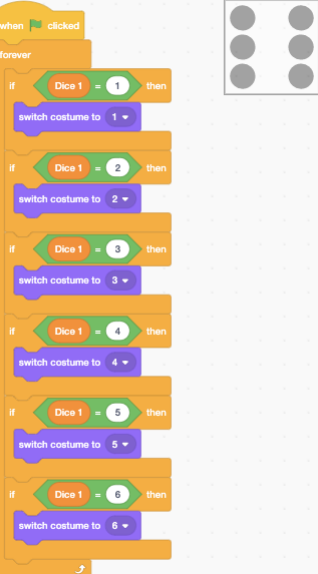
Cat – (Version 2) Using list



```

when clicked
  set size to 70 %
  delete all of Sum
  repeat 12
    add 0 to Sum
  set Number of Rolls to 0
  forever
    ask How many times you want to roll the dice? and wait
    delete all of Sum
    repeat 12
      add 0 to Sum
    set Number of Rolls to 0
    if answer > 0 and round answer = answer then
      repeat until Number of Rolls = answer
        change Number of Rolls by 1
        set Dice 1 to pick random 1 to 6
        set Dice 2 to pick random 1 to 6
        set Sum to Dice 1 + Dice 2
        replace item Sum of Sum with 1 + item Sum of Sum
        wait 0.05 seconds
      else
        say Invalid input, try again! for 2 seconds
  
```

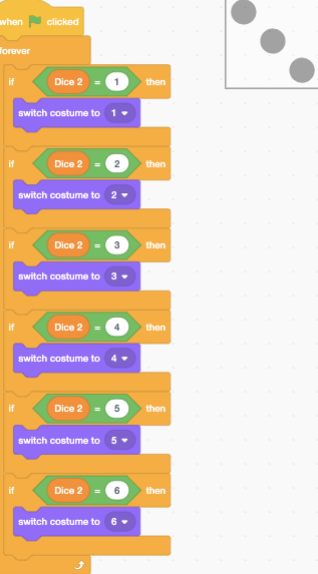
Dice 1



```

when clicked
  forever
    if Dice 1 = 1 then
      switch costume to 1
    if Dice 1 = 2 then
      switch costume to 2
    if Dice 1 = 3 then
      switch costume to 3
    if Dice 1 = 4 then
      switch costume to 4
    if Dice 1 = 5 then
      switch costume to 5
    if Dice 1 = 6 then
      switch costume to 6
  
```

Dice 2



```

when clicked
  forever
    if Dice 2 = 1 then
      switch costume to 1
    if Dice 2 = 2 then
      switch costume to 2
    if Dice 2 = 3 then
      switch costume to 3
    if Dice 2 = 4 then
      switch costume to 4
    if Dice 2 = 5 then
      switch costume to 5
    if Dice 2 = 6 then
      switch costume to 6
  
```