



BVRIT HYDERABAD

College of Engineering for Women

(Approved by AICTE | Affiliated to JNTUH | Accredited by NAAC with Grade 'A' & NBA for CSE, ECE, EEE, & IT)
Bachupally, Hyderabad-090

Department of CSE(AI&ML)

Name of the Activity: Teach from SCRATCH

Faculty Name: Ms. A Naga Kalyani

Class / Semester: I CSE AI&ML

Academic Year: 2021- 2022

Subject Name: Programming for Problem Solving

Topic: Basic concepts of Programming

Brief Write-up (Not exceeding 200 Words)

One-way students learning to code is by picking a popular programming language and begin with no direction. This can lead to difficulty in building logic while writing a program. In order to address this , SCRATCH promotes computational thinking and problem solving skills; creative teaching and learning; self-expression and collaboration; and equity in computing. SCRATCH, is world's largest coding community for students and a coding language with a simple visual interface that allows them to create digital stories, games, and animations. After gaining knowledge of the required concepts, the students can practice multiple programs in Codetantra, Hacker rank.

Objective:

To meet the understanding of the subject such as knowledge of the basic concepts of programming and learn the usage of their applications in various fields and to develop the competitive skill among students.

Samples Projects:

Scratch - Imagine, Program, Share

accelerate - Google Search

https://scratch.mit.edu/projects/editor/?tutorial=getStarted

Scratch

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Code Costumes Sounds

Motion

- move 10 steps
- turn 15 degrees
- turn 15 degrees
- go to random position
- go to x: 0 y: 0
- glide 1 secs to random position
- glide 1 secs to x: 0 y: 0
- point in direction 90
- point towards mouse-pointer
- change x by 10
- set x to 0
- change y by 10

Sprite: Sprite1

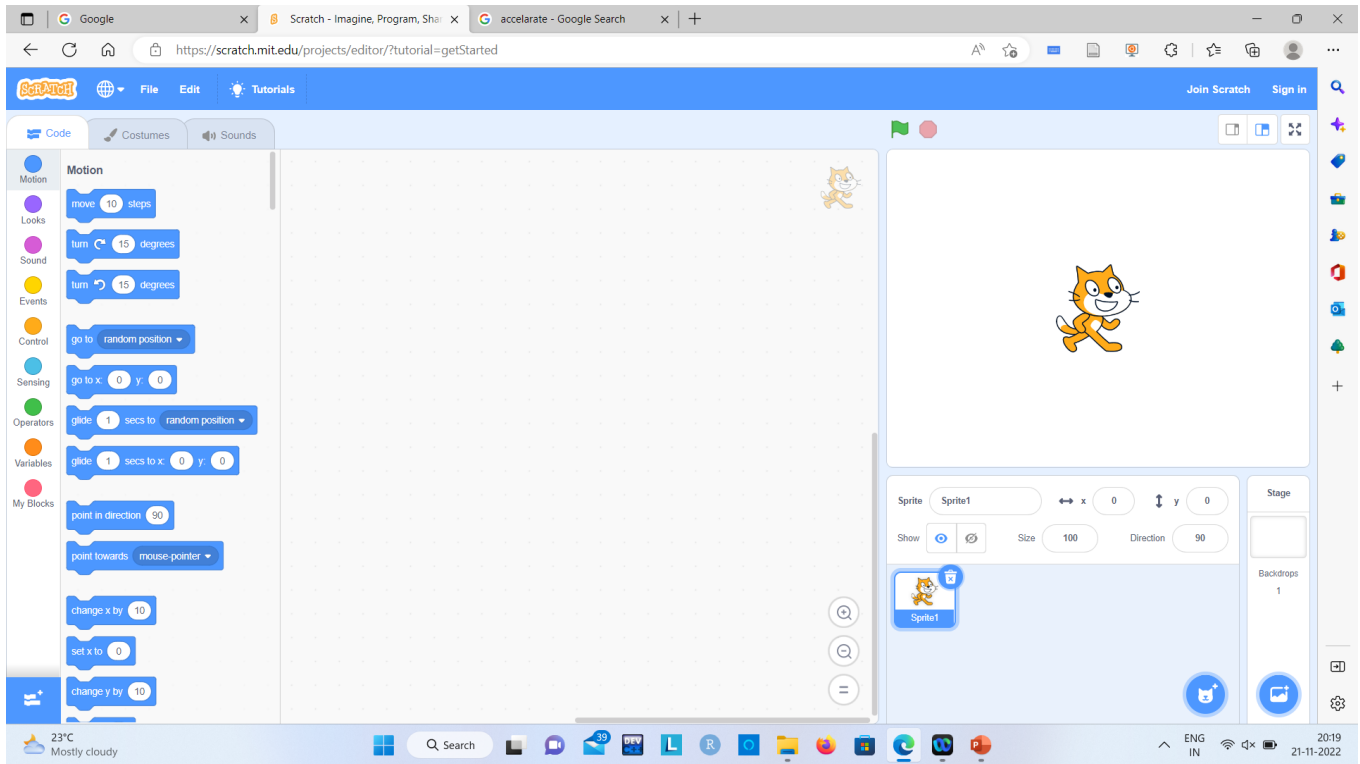
x: 0 y: 0

Show Size: 100 Direction: 90

Backdrops: 1

23°C Mostly cloudy

20:19 21-11-2022



Scratch - Imagine, Program, Share

https://scratch.mit.edu/projects/editor/?tutorial=getStarted

Scratch

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Code Costumes Sounds

Sensing

- touching mouse-pointer?
- touching color?
- color is touching?
- distance to mouse-pointer
- ask What's your name? and wait
- answer
- key space pressed?
- mouse down?
- mouse x
- mouse y
- set drag mode: draggable
- loudness
- timer
- reset timer

ask Value of a and wait

show variable answer

set answer to 15

Sprite: Sprite1

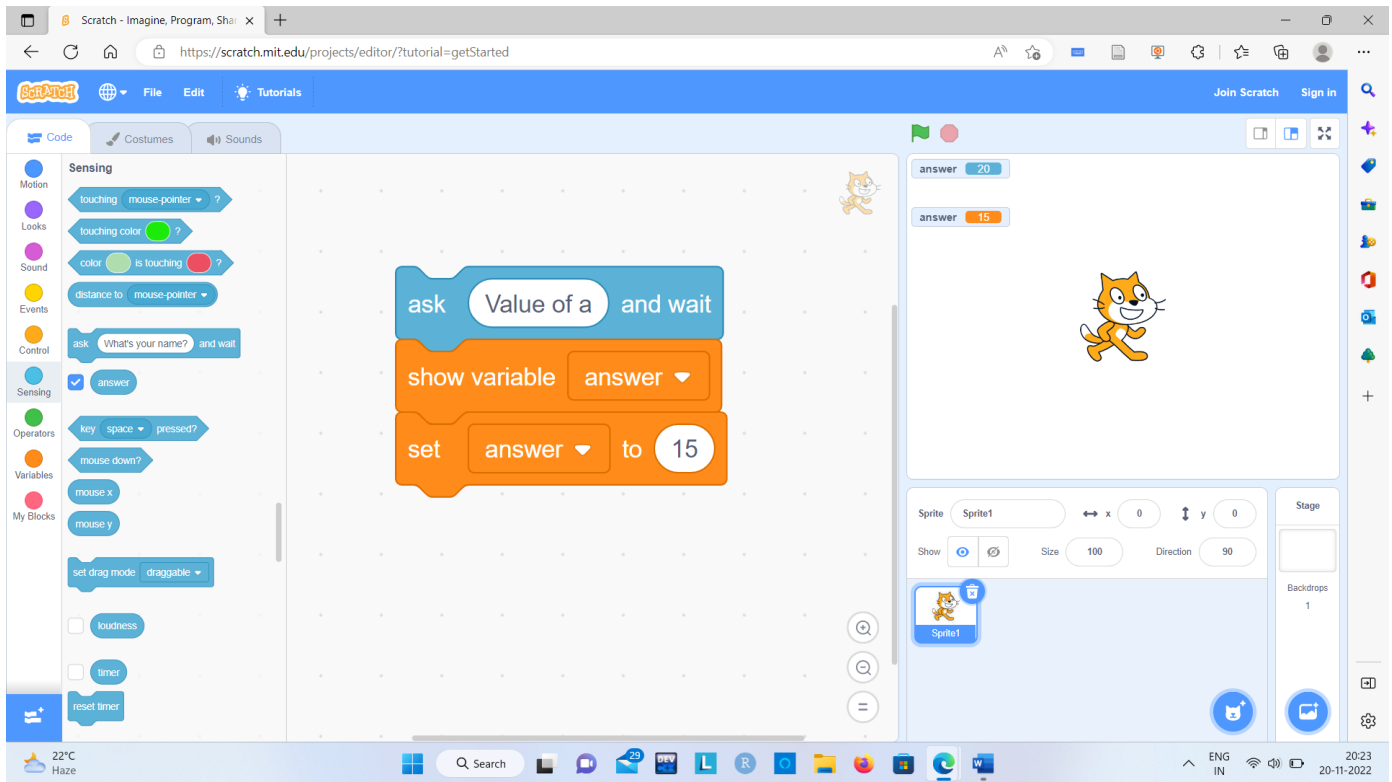
x: 0 y: 0

Show Size: 100 Direction: 90

Backdrops: 1

22°C Haze

20:23 20-11-2022



The image shows the Scratch code editor with a script for adding two numbers. The script starts with a 'when green flag clicked' event, followed by 'set num1 to 10', 'set num2 to 20', and 'set result to 0'. It then uses 'ask and wait' blocks to get user input for num1 and num2. The 'result' variable is updated with 'num1 + num2'. A 'say' block displays 'The sum of two numbers is' for 2 seconds, and a 'show variable' block shows the 'result' variable.

```
when green flag clicked
  set num1 to 10
  set num2 to 20
  set result to 0
  ask "What is the value of num1?" and wait
  set num1 to the answer
  ask "What is the value of num2?" and wait
  set num2 to the answer
  set result to num1 + num2
  say "The sum of two numbers is" for 2 seconds
  show variable result
```

The image shows the Scratch code editor with a script for a meow sound effect. The script starts with a 'when clicked' event, followed by a 'repeat' block with 5 iterations. Inside the repeat block, there is a 'wait 0.1 seconds' block and a 'start sound Meow' block. The 'result' variable is set to 'num1 + num2', and a 'say' block displays 'sum' for 2 seconds. The 'show variable' block shows the 'result' variable.

```
when clicked
  repeat 5
    wait 0.1 seconds
    start sound Meow
  set result to num1 + num2
  say sum for 2 seconds
  show variable result
```

Unit 1 - Lesson 16 / Arithmetic Operators / Q4

Arithmetic operators - mixed data types

Arithmetic operators can be used in expressions with operands of different data types.

For example, the **addition operator** (+) can be used on **int** and **float** data types with the result being a **float** data type.

If the same is performed on **float** and **double** data types, the result will be a **double** data type, i.e., the result will always be of the **data type** with the highest memory capacity.

Consider the following examples with different combinations of arithmetic operators and data types.

Expression	Result	Description
2 + 2.5	4.500000	int + float = float
'A' + 10	75	char + int = int
5.9 + 4.67L	10.570000	float + long double = long double

Click on [Live Demo](#) to understand the working of different **arithmetic operators** in C.

Fill in the code given below with the correct missing **format characters**:

Sample Test Cases

Test Case 1:

Correct/complete the code.

```
ArithmeticOperatorsDemc
1 #include <stdio.h>
2 void main() {
3     printf("Result1 = %f\n", (2 + 2.5));
4     printf("Result2 = %d\n", ('A' + 10));
5     printf("Result3 = %f\n", (5.9 + 4.67));
6 }
```

Terminal Execution Results

```
> Terminal Theme
Welcome to CodeTantra's Live Linux Console!
code@tantra:~$ cd $HOME && mkdir -p ct-c-work/operators && cd ct-c-work/operator
s
code@tantra:~$
```

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https://www.hackerrank.com/contests/ppsass1/challenges

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Challenges

Current Rank: N/A

Current Leaderboard

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Review Submissions

Admin Options

Manage Contest

View All Submissions

L.C.M of two Numbers

Success Rate: 74.19% Max Score: 10 Difficulty: Medium

Solve Challenge

G.C.D of Two numbers

Success Rate: 70.00% Max Score: 10 Difficulty: Medium

Solve Challenge

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