

GAME STATES



What is our GOAL for this MODULE?

We used our knowledge of functions, loops, operators and variables to create different behaviors in different conditions.

What did we ACHIEVE in the class TODAY?

- Stored the state of a game in a variable.
- Displayed different information on the screen according to the state of the game.
- Used conditional programming and logical operators to assign different behaviors to the objects in the game depending on the state of the game.

Which CONCEPTS/ CODING BLOCKS did we cover today?

- Game states
- Logical operators
- Conditional programming

How did we DO the activities?

In a game, there is a change of state, for example, Start, Play, and End.

1. Add the text() to display "Welcome! Press Enter to start" on the screen.

```
function draw() {  
  background("white");  
  
  //display score  
  textSize(15);  
  stroke("red");  
  text("Score :"+score,330,20);  
  
  //display welcome text  
  textSize(25);  
  text("Welcome! Press Enter to start.",30,200);  
  
  //Moving the ball on pressing enter key  
  if(keyDown("enter")){  
    ball.velocityX = 3;  
    ball.velocityY = 4;  
  }
```

Output:



2. Create gameState variable to store the state of the game so that depending on the state our game works differently.

```
//creating plddle and the ball
var paddle = createSprite(200, 375, 50, 15);
var ball = createSprite(150, 250, 20, 20);

var score=0;
var gameState = "serve";

//first row of boxes
var box1 = createSprite(25, 75, 50, 50);
box1.shapeColor="red";
var box2 = createSprite(75, 75, 50, 50);
box2.shapeColor="blue";
var box3 = createSprite(125, 75, 50, 50);
box3.shapeColor="red";
var box4 = createSprite(175, 75, 50, 50);
box4.shapeColor="blue";
var box5 = createSprite(225, 75, 50, 50);
```

3. Create conditional statements for each state i.e. **serve**, **play**, **end**.

```
function draw() {
  background("white");

  //display score
  textSize(15);
  stroke("red");
  text("Score :"+score, 330, 20);

  if(gameState == "serve")
  {
  }

  if(gameState == "play")
  {
  }

  if(gameState == "end")
  {
  }
}
```

4. Add the welcome text and code to serve the ball in serve state.

```
if(gameState == "serve")
{
    //display welcome text
    textSize(25);
    text("Welcome! Press Enter to start.",30,200);

    //Moving the ball on pressing enter key
    if(keyDown("enter")){
        ball.velocityX = 3;
        ball.velocityY = 4;
    }
}
```

5. Change the state to play when the enter key is pressed.

```
if(gameState == "serve")
{
    //display welcome text
    textSize(25);
    text("Welcome! Press Enter to start.",30,200);

    //Moving the ball on pressing enter key
    if(keyDown("enter")){
        ball.velocityX = 3;
        ball.velocityY = 4;
        gameState="play";
    }
}
```

6. Add paddle movement in play state so that we are only able to move the paddle in this state of the game.

```
if(gameState == "play")
{
    //Moving the paddle with mouse along the x-axis
    paddle.x=World.mouseX;
}
```

7. Change the gameState to end when the ball touches the bottom sprite or every box is destroyed i.e. score=16.

```
if(gameState == "play")
{
    //Moving the paddle with mouse along the x-axis
    paddle.x=World.mouseX;

    if(ball.isTouching(bottomEdge) || score == 16)
    {
        gameState="end"
    }
}
```

8. In the third state stop movement of the ball and display Game Over text.

```
if(gameState == "end")
{
    ball.velocityX=0;
    ball.velocityY=0;
    //display Game Over
    textSize(25);
    stroke("red");
    text("Game Over!",140,200);
}
```

Output:



What's next?

We are going to make the world's hardest game.

Further reading:

1. [Assigning value to variable](#)
2. [Inequality Operator](#)

Note: Student should keep the visual studio code installation and login into GitHub easy before the class 10

STEPS TO LOGIN INTO GITHUB:

Refer the video <https://www.youtube.com/watch?v=783Bba37jic&feature=youtu.be>

- 1) Open the link <https://GitHub.com/>
- 2) Click on Sign up for GitHub



- 3) Create an account by giving the user name, email id, and password

Create your account

Username *

Email address *

Password *



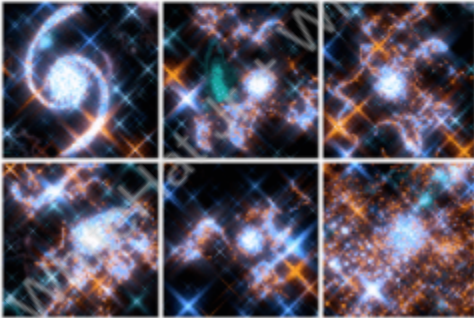
Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter.
[Learn more.](#)

Email preferences

☒ Send me occasional product updates, announcements, and offers.

Verify your account

Pick the spiral galaxy



4) Verify your account by choosing the right image

Email address *

rashmismit@gmail.com ✓

Password *


..... ✓

Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter.
[Learn more.](#)

Email preferences

☒ Send me occasional product updates, announcements, and offers.

Verify your account



Create account

5) Answer for the following question and give complete setup once it is done

Welcome to GitHub

Woohoo! You've joined millions of developers who are doing their best work on GitHub. Tell us what you're interested in. We'll help you get there.

What kind of work do you do, mainly?

Software Engineer I write code	Student I go to school
Product Manager I write specs	UX & Design I draw interfaces
Data & Analytics I write queries	Marketing & Sales I look at charts
Teacher I educate people	Other I do my own thing

How much programming experience do you have?

None

I don't program at all

A little

I'm new to programming

A moderate amount

I'm somewhat experienced

A lot

I'm very experienced

What do you plan to use GitHub for?

(Select up to 3)



Learn to code



Learn Git and GitHub



Host a project (repository)



I am interested in:

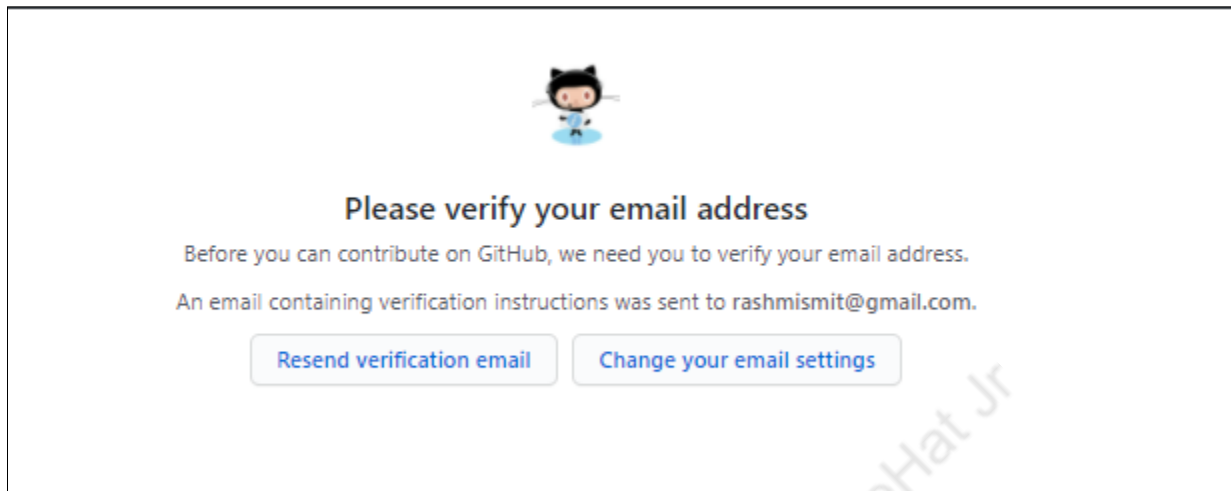
languages, frameworks, industries

We'll connect you with communities and projects that fit your interests.

For example: `opengl` `game-jam` `aspnet`

Complete setup

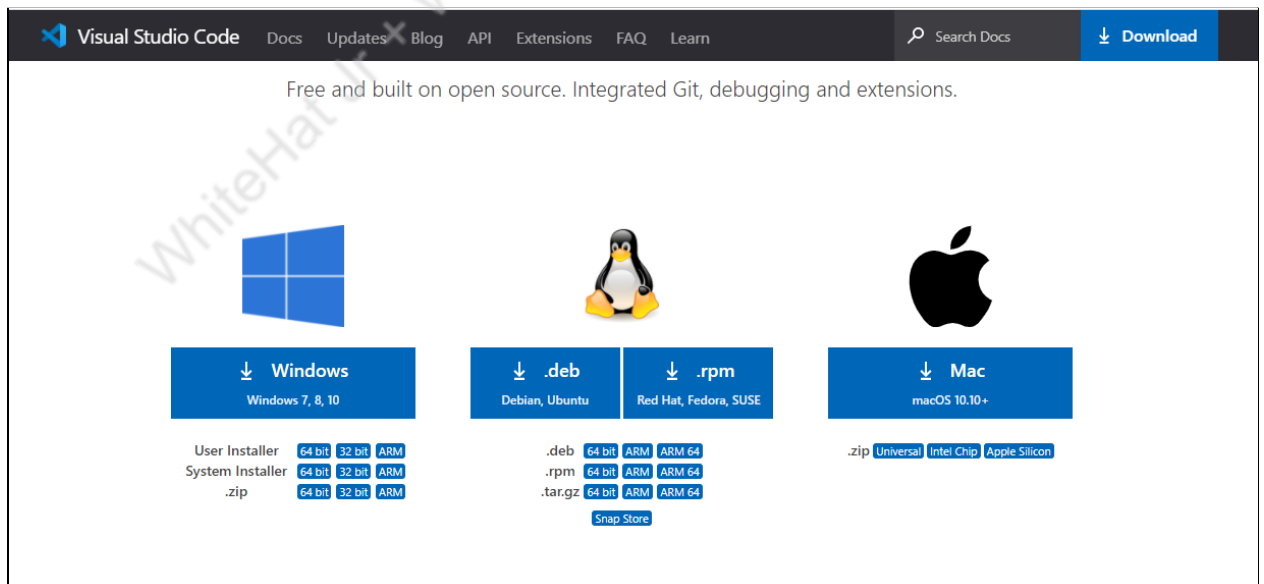
- 6) Verify your email address by opening your mail and click on the verification tab



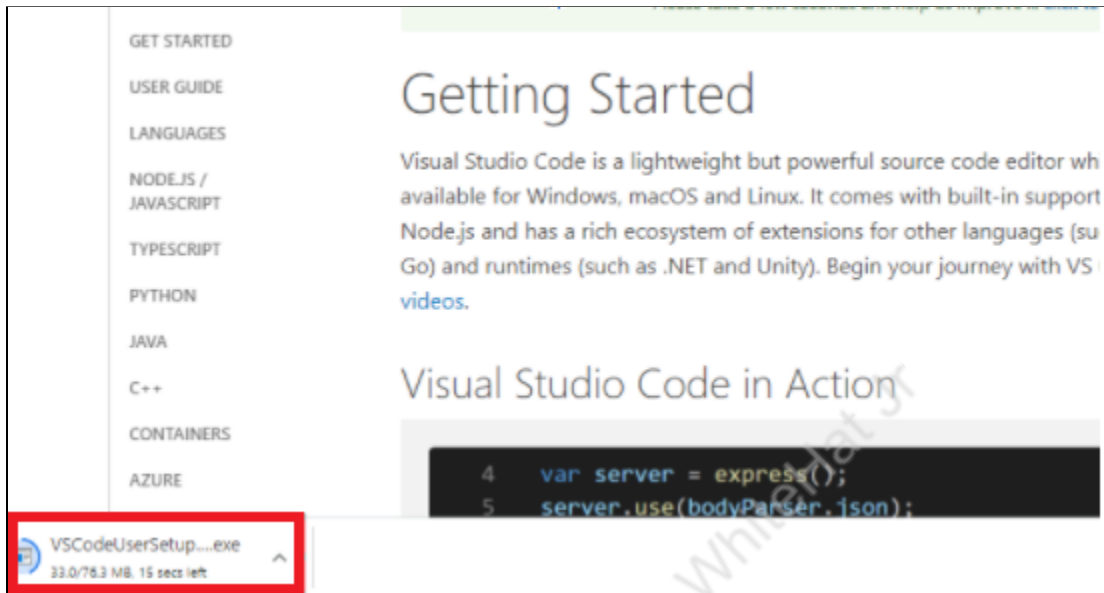
STEPS TO INSTALL VISUAL STUDIO:

Refer the video <https://www.youtube.com/watch?v=IJthkK4xRQ>

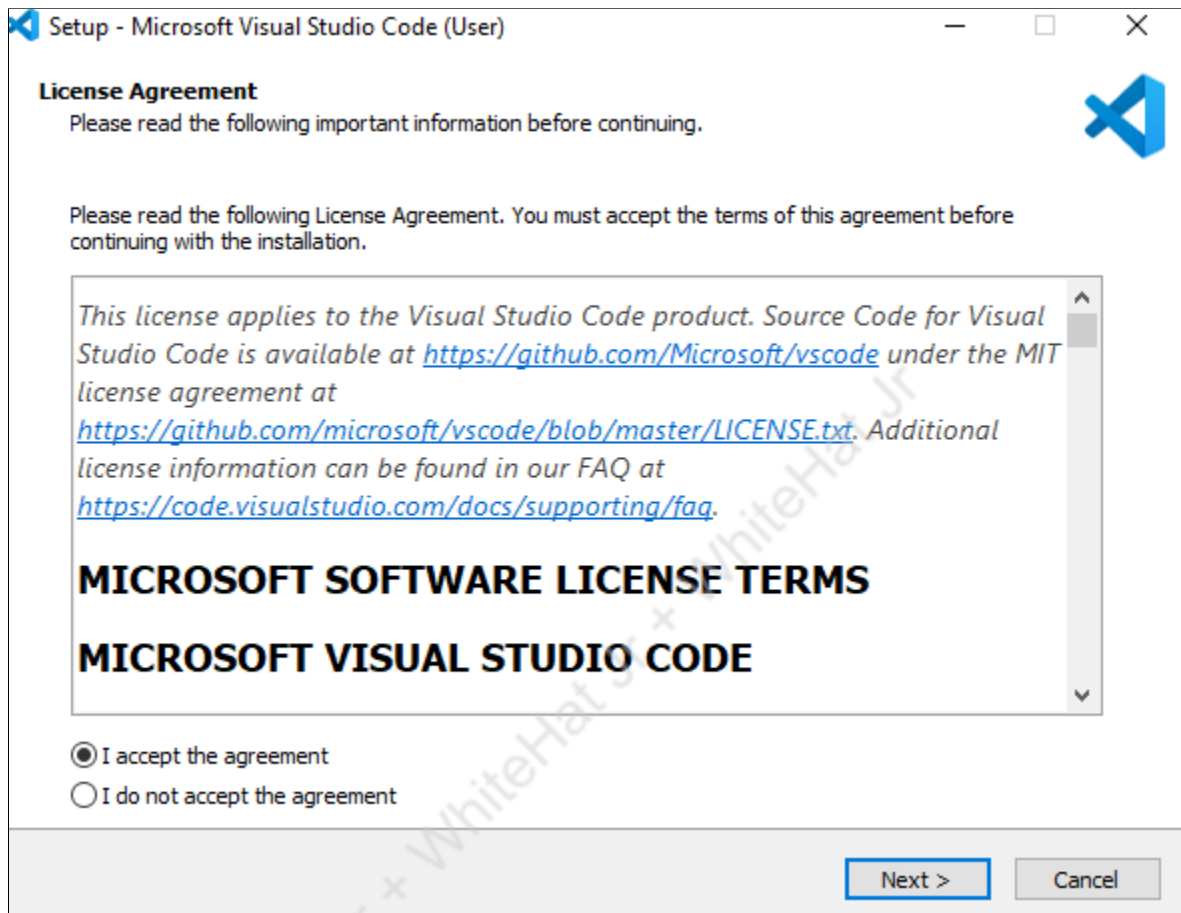
- 1) Open the link <https://code.visualstudio.com/download>
- 2) Choose the respective operating system



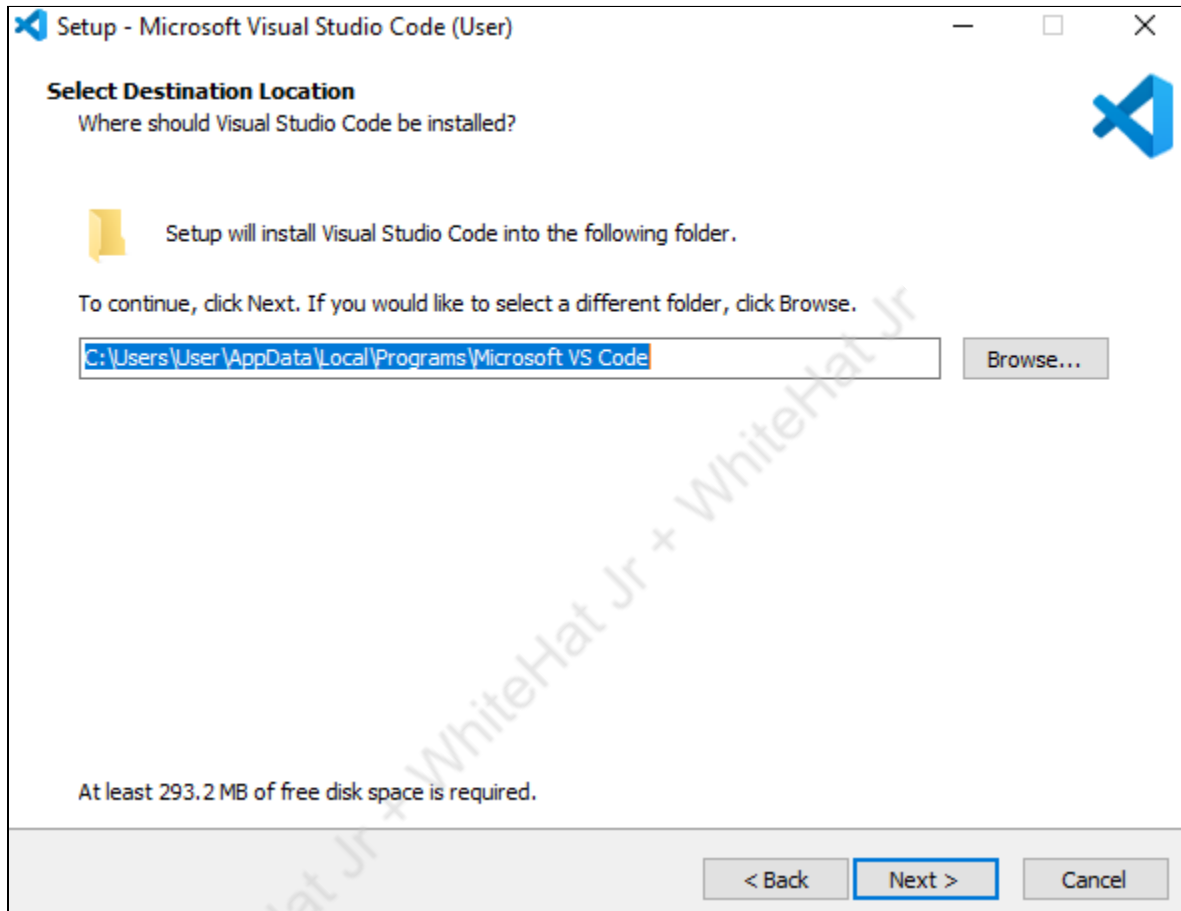
3) We can see the VSCodeUserSetup .exe file getting downloaded at the bottom



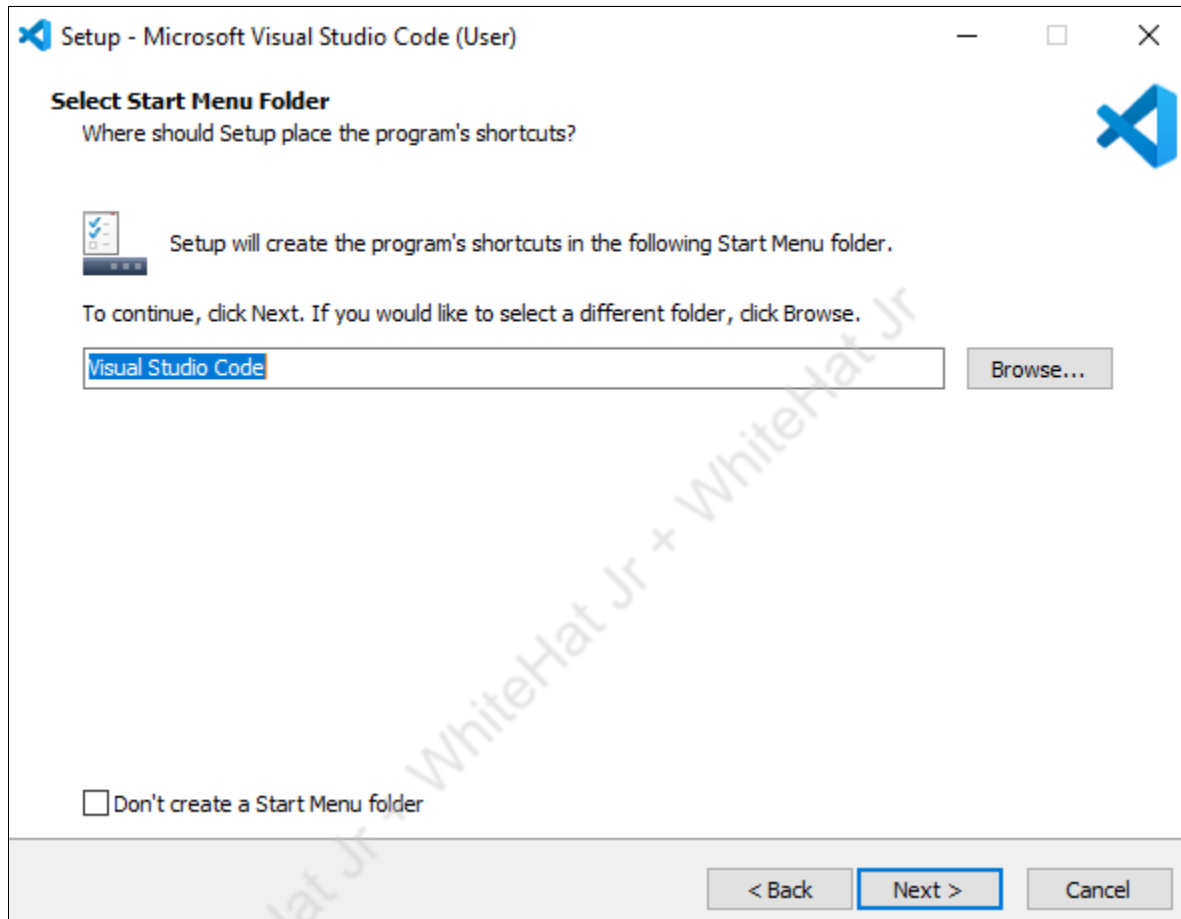
- 4) Check the box of I accept the agreement and click on Next



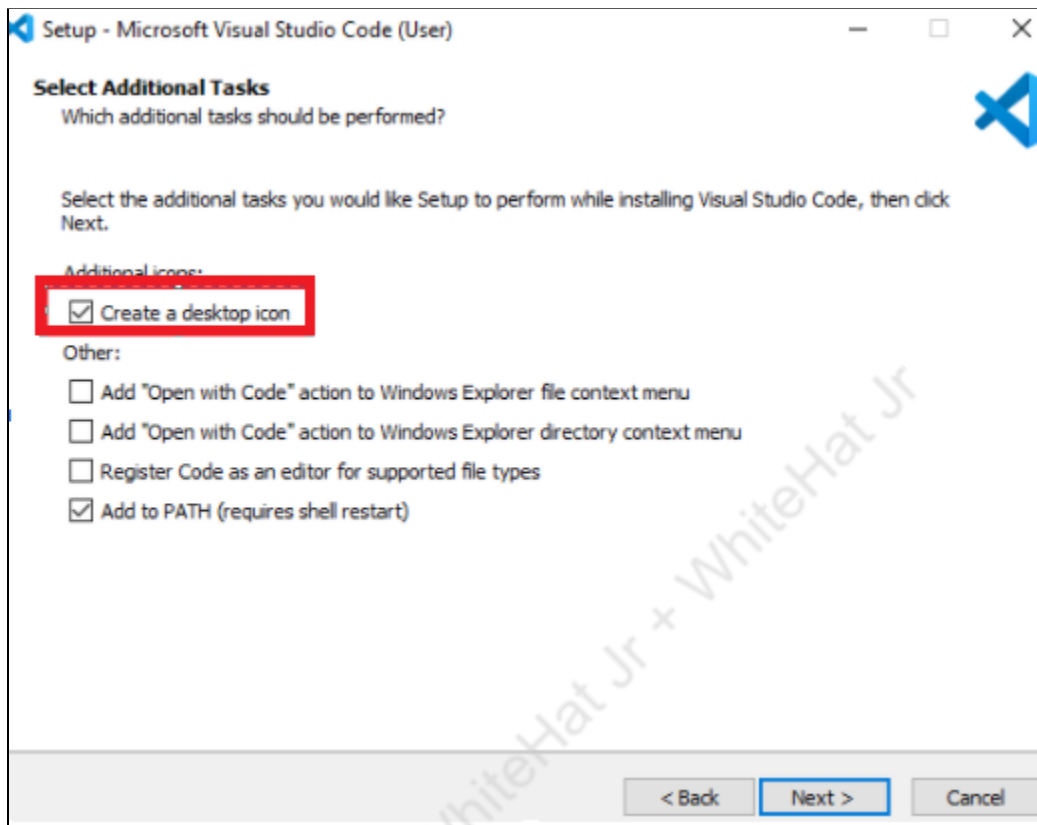
5) Click on the Next tab



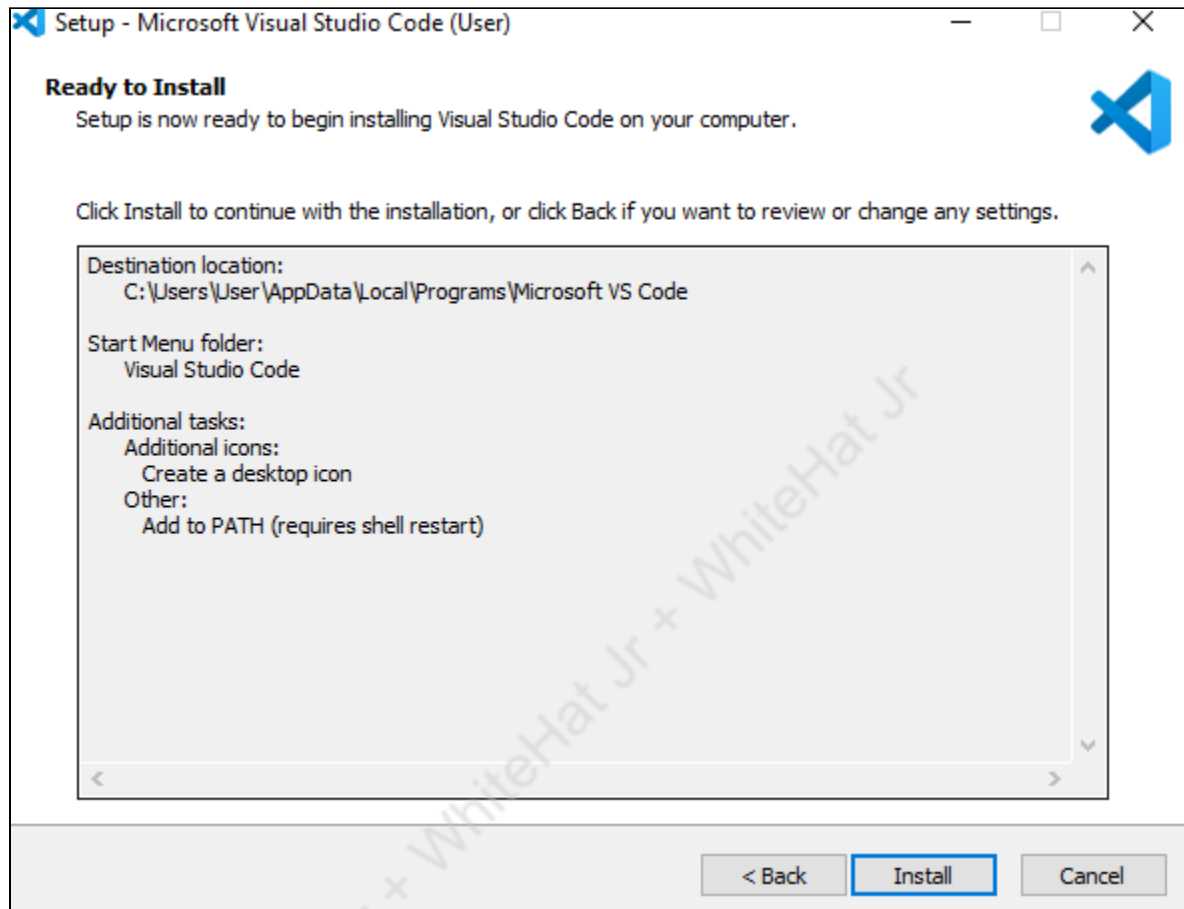
6) Click on the Next tab



7) Enable the create a desktop icon and click on the Next tab



8) Click on install



9) Once install is done click on the finish

