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";
```

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

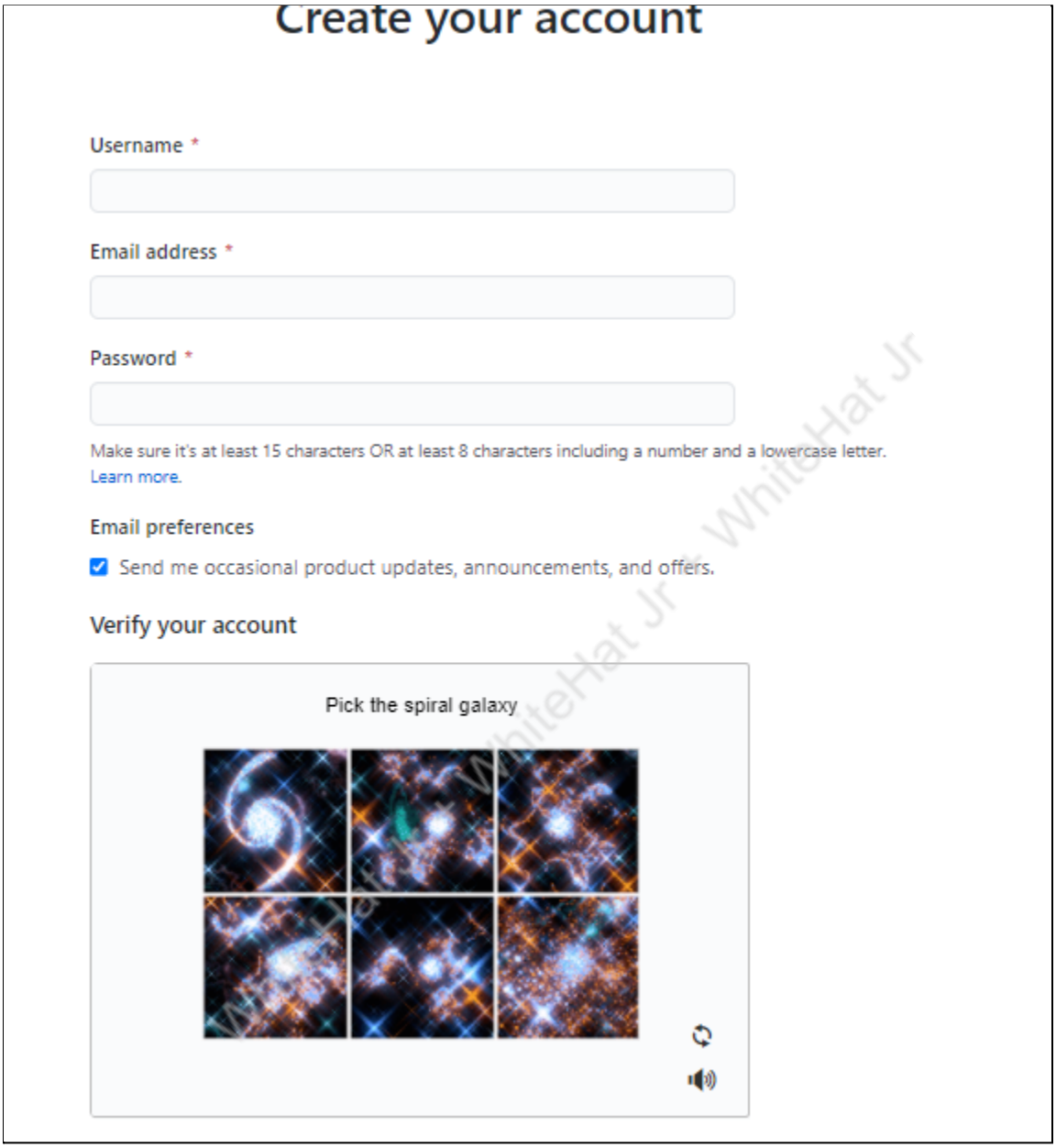
Note: Student should keep the visual studio code installation and login into GitHub easy before the class 10

STEPS TO LOGIN INTO GITHUB:

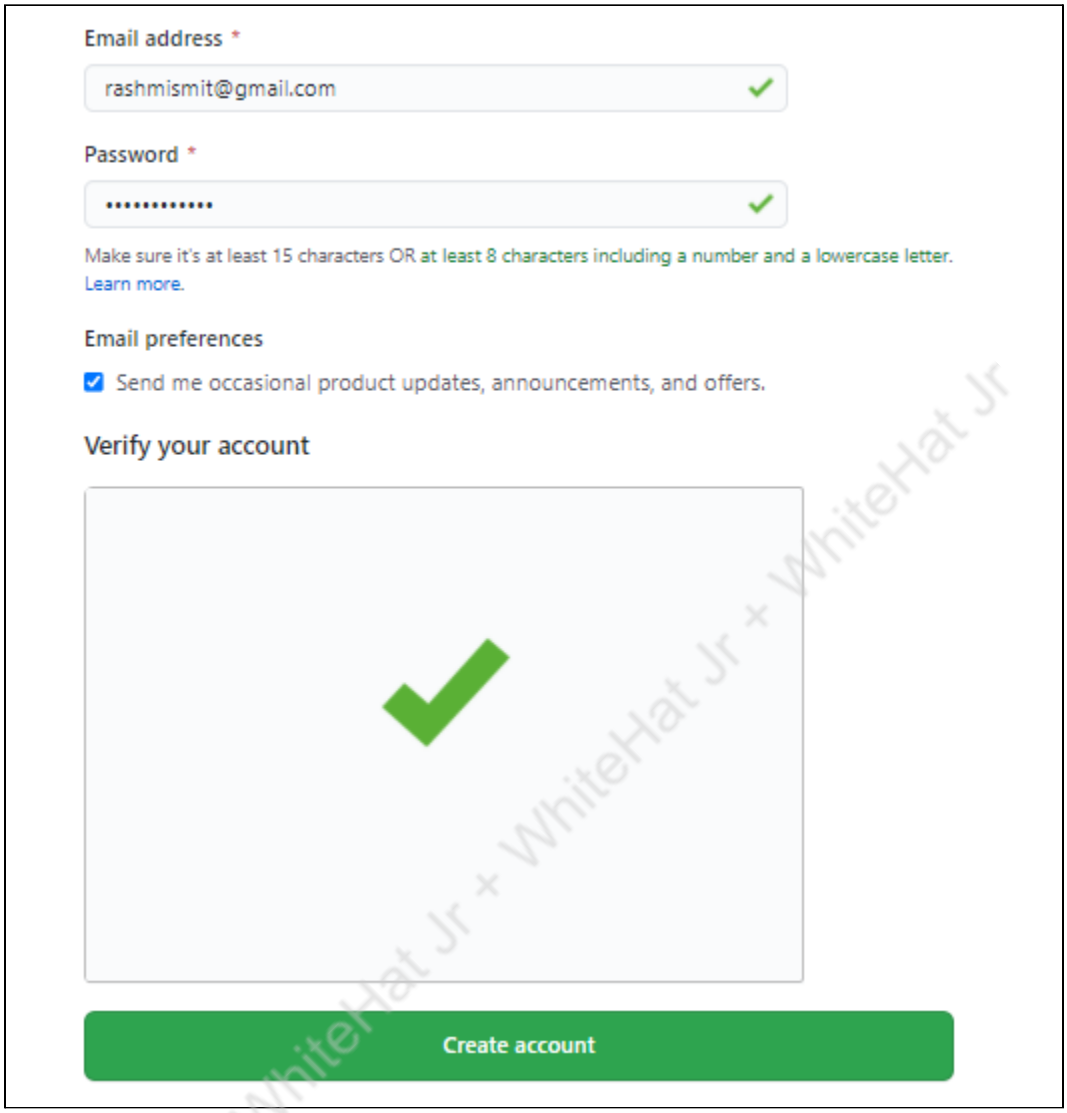
Refer the video https://www.youtube.com/watch?v=783Bba37jic&feature=youtu.be

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

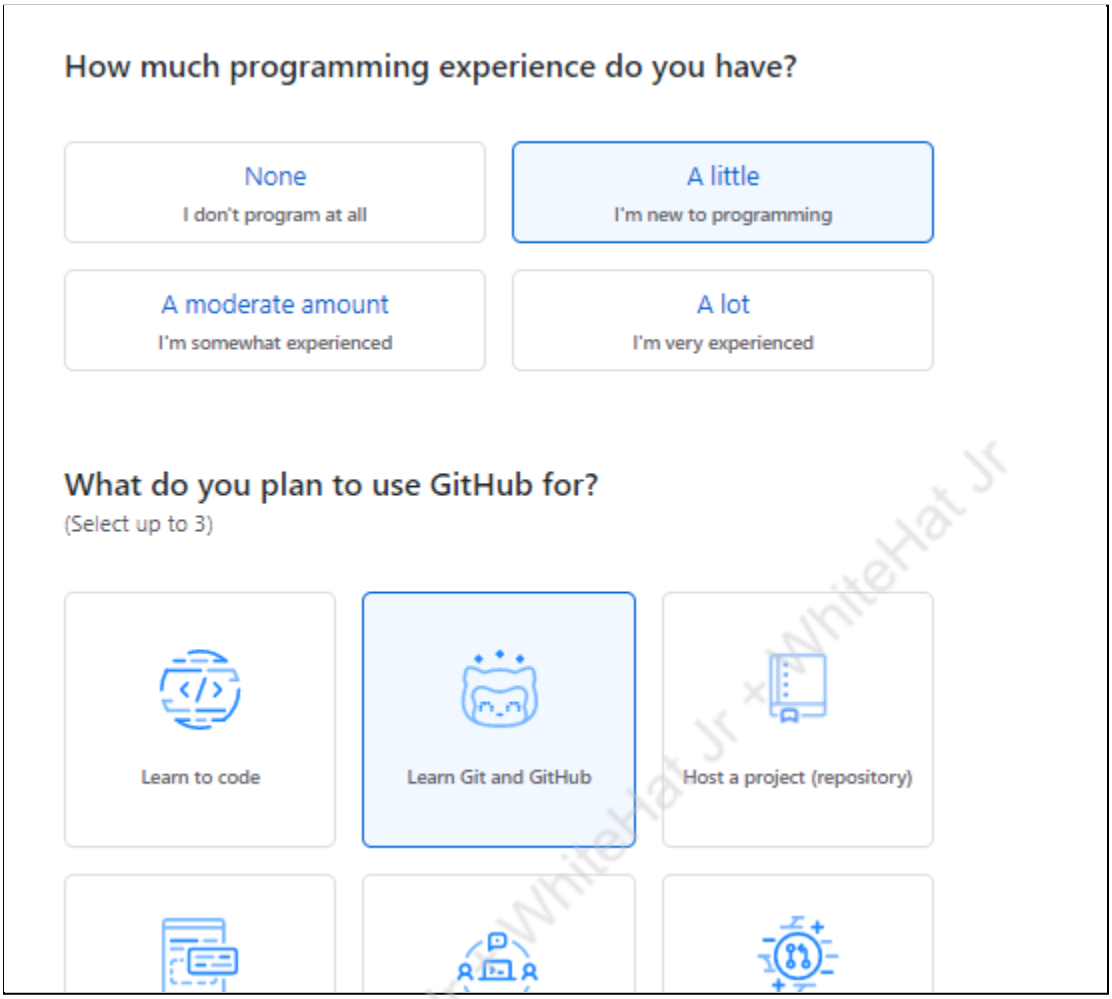
3) Create an account by giving the user name, email id, and password

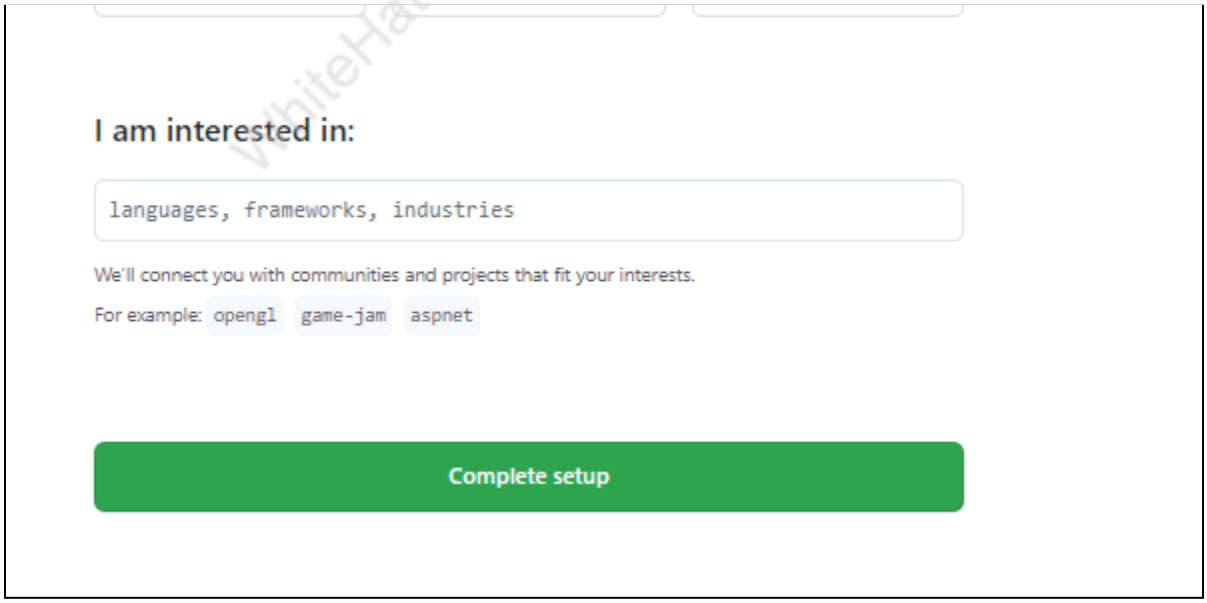


4) Verify your account by choosing the right image

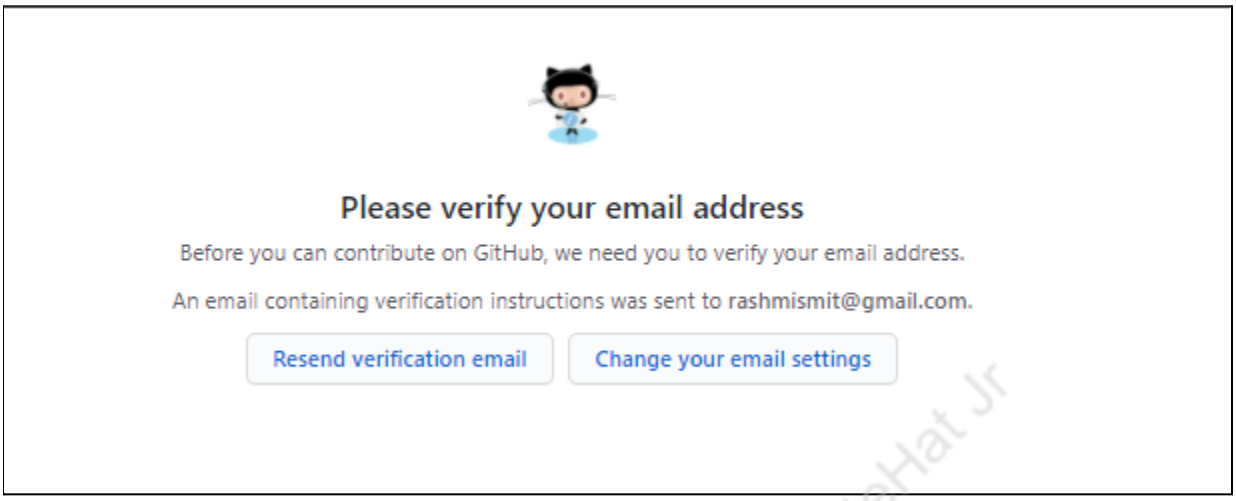


5) Answer for the following question and give complete setup once it is done





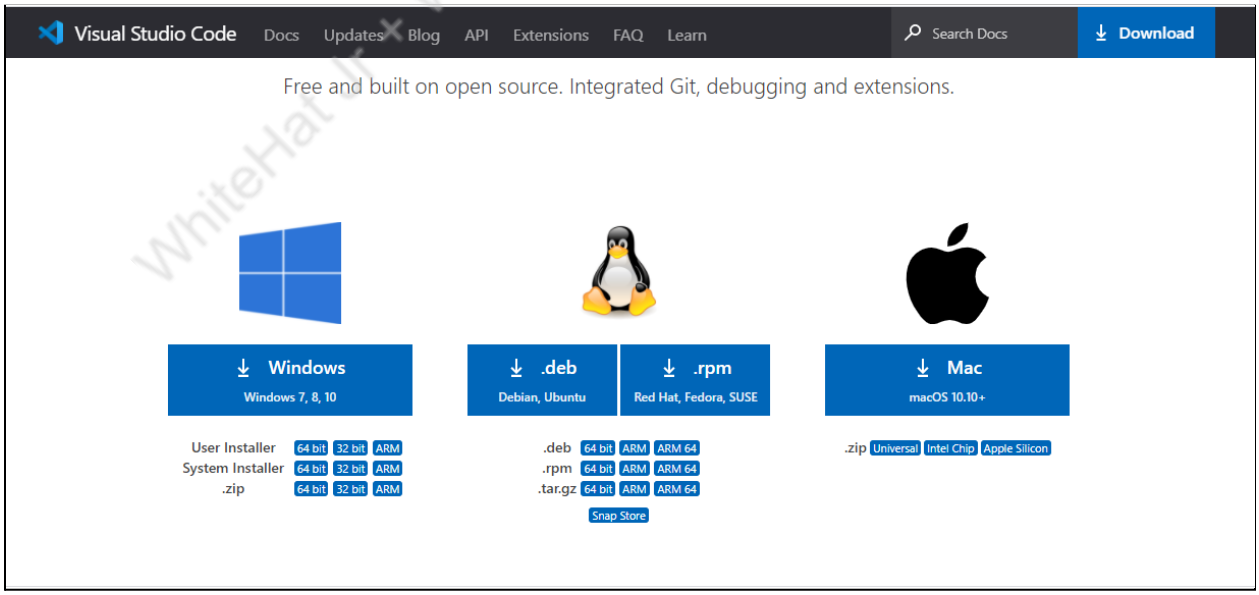
6) Verify your email address by opening your mail and click on the verification tab



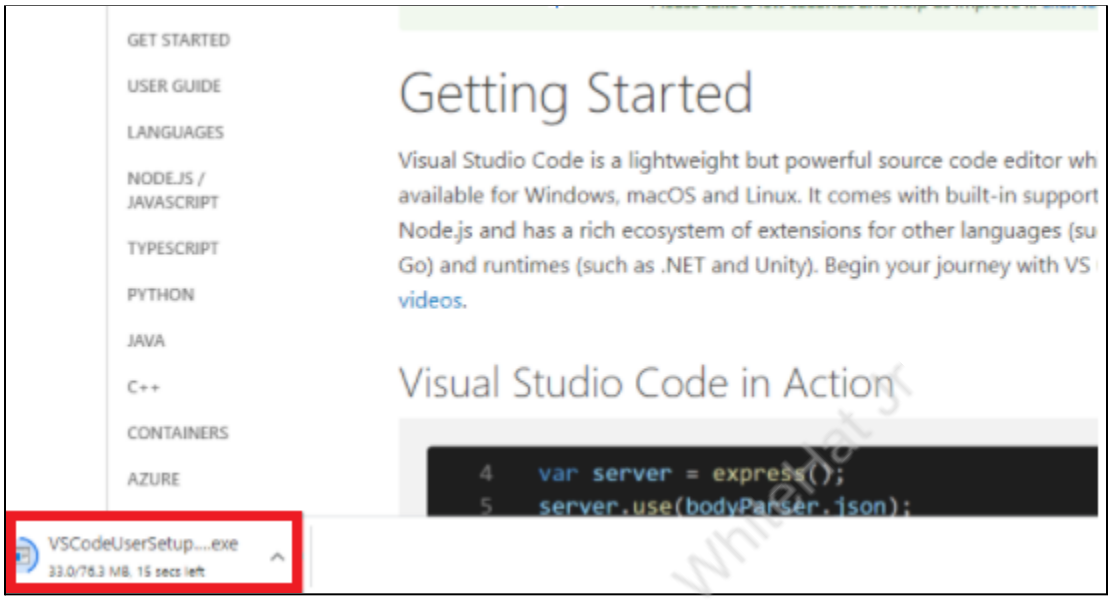
STEPS TO INSTALL VISUAL STUDIO:

Refer the video https://www.youtube.com/watch?v=IJjthkK4xRQ

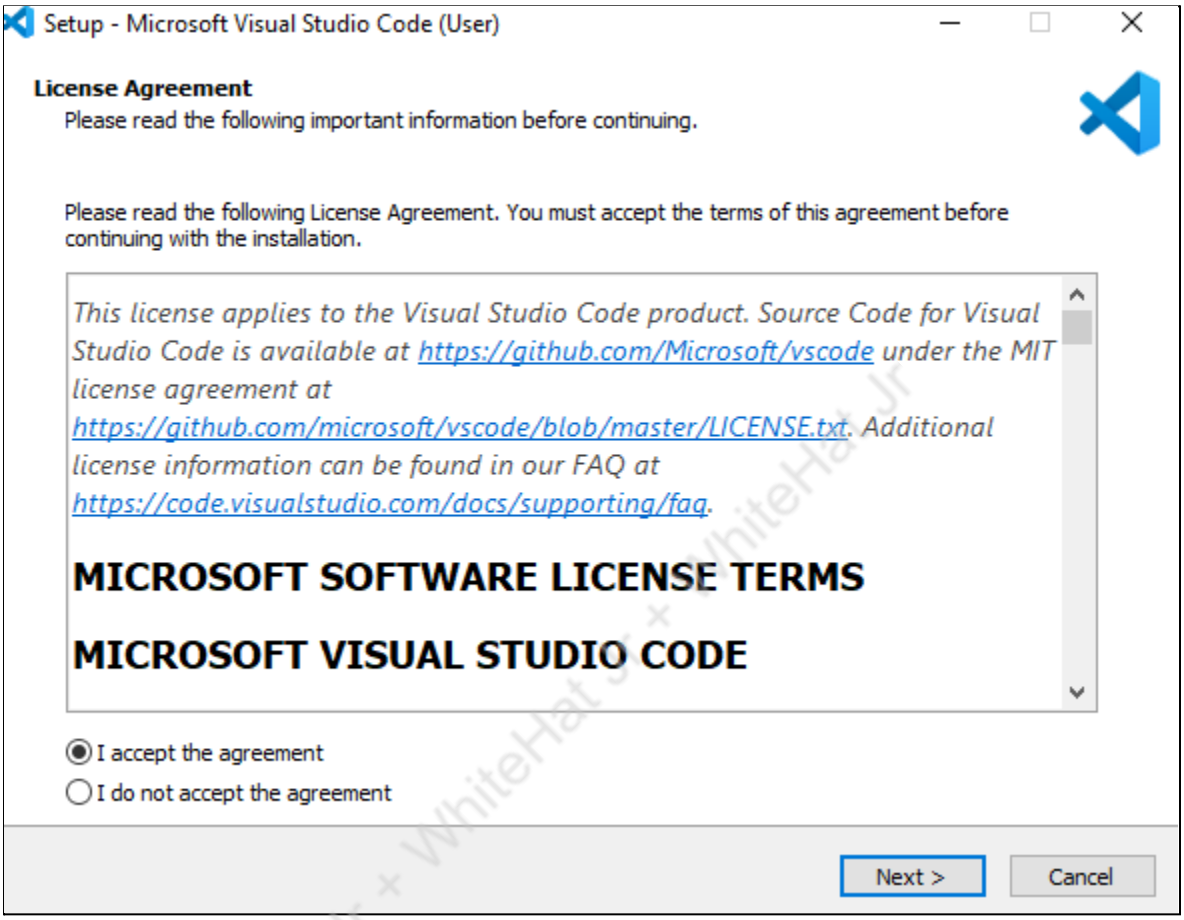
1) Open the link https://code.visualstudio.com/download
2) Choose the respective operating system



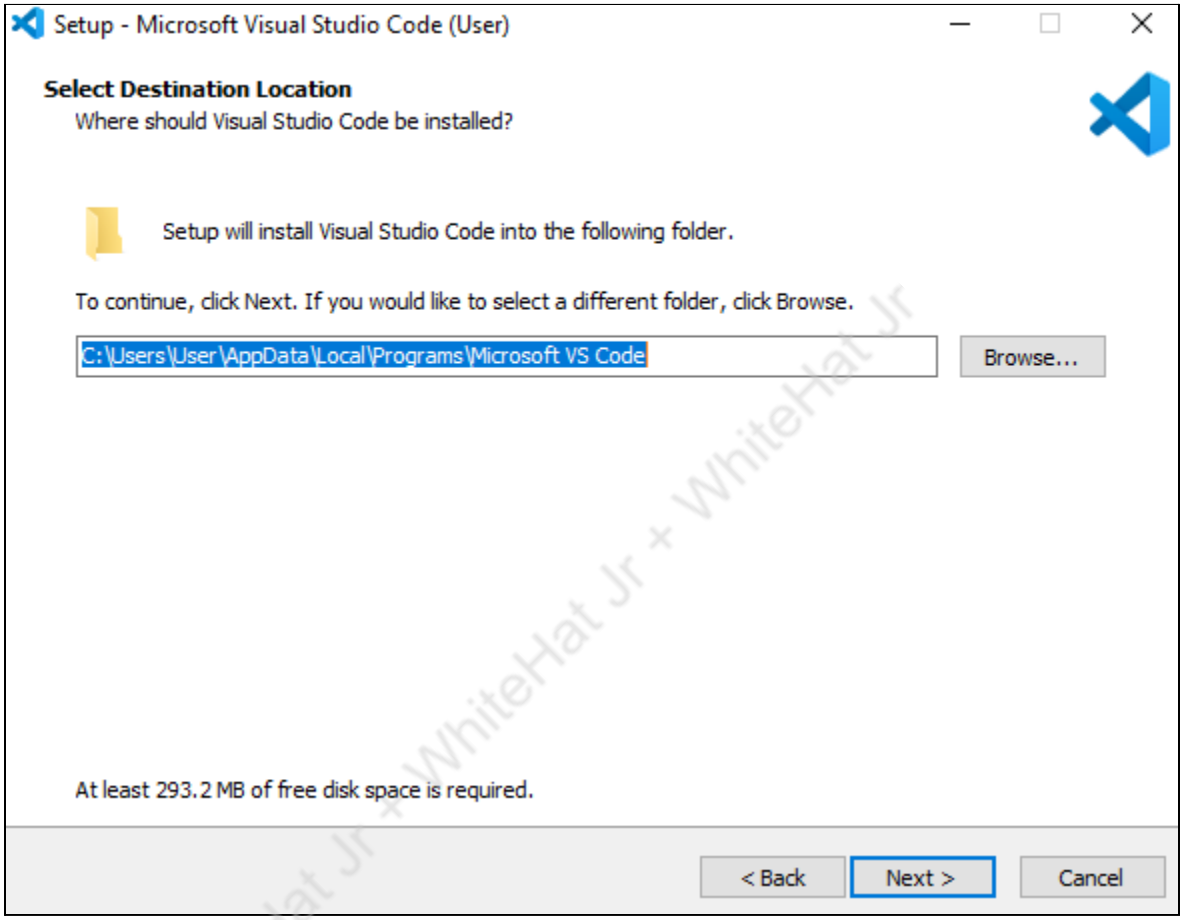
3) We can see the VSCodeUserSetup .exe file getting downloaded at the bottom



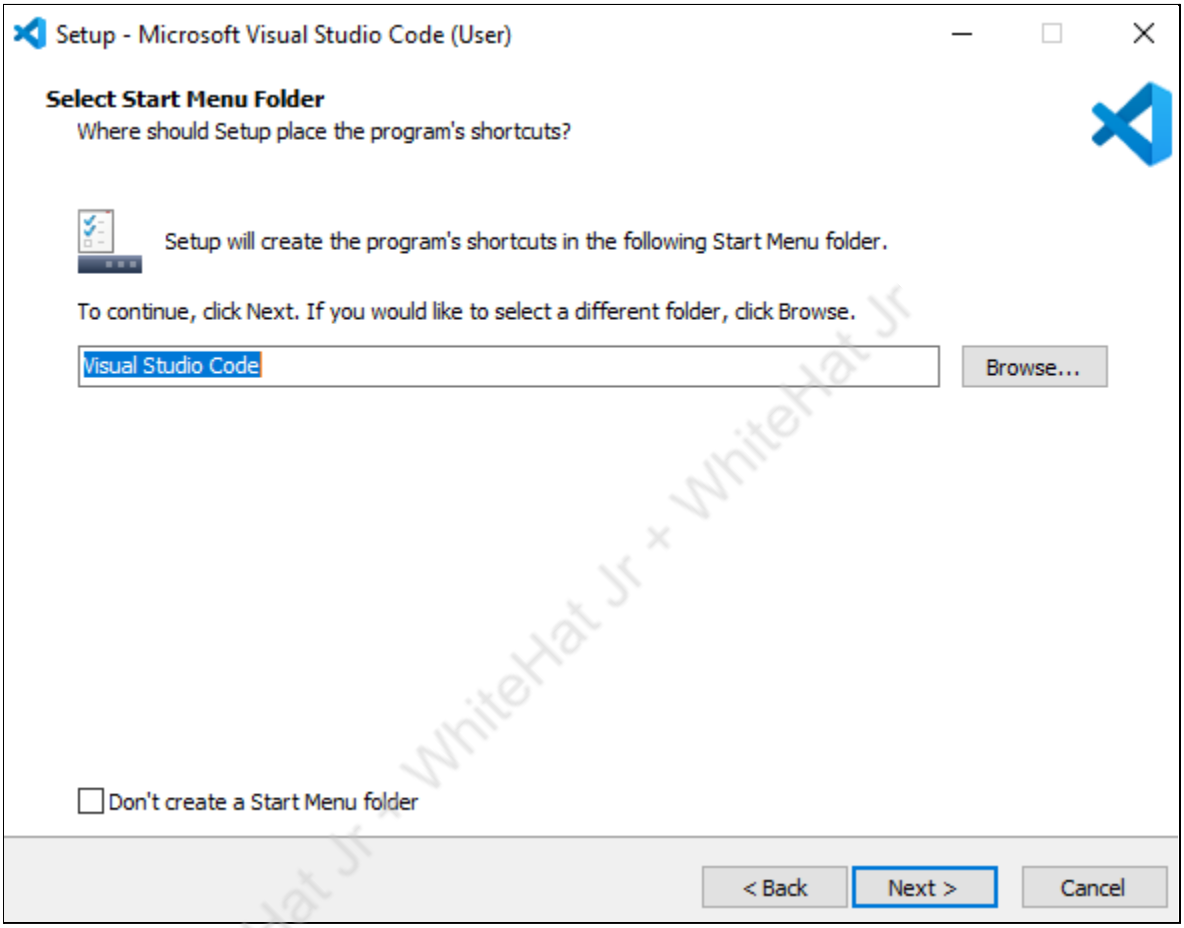
4) Check the box of I accept the agreement and click on Next



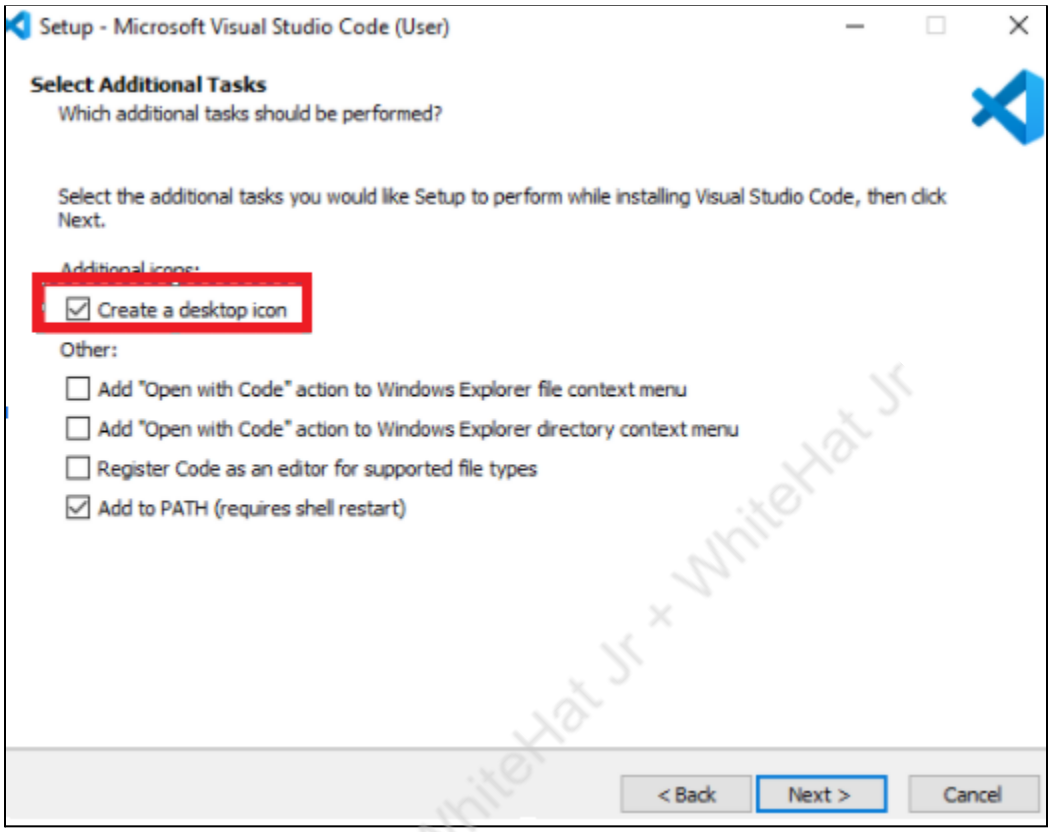
5) Click on the Next tab



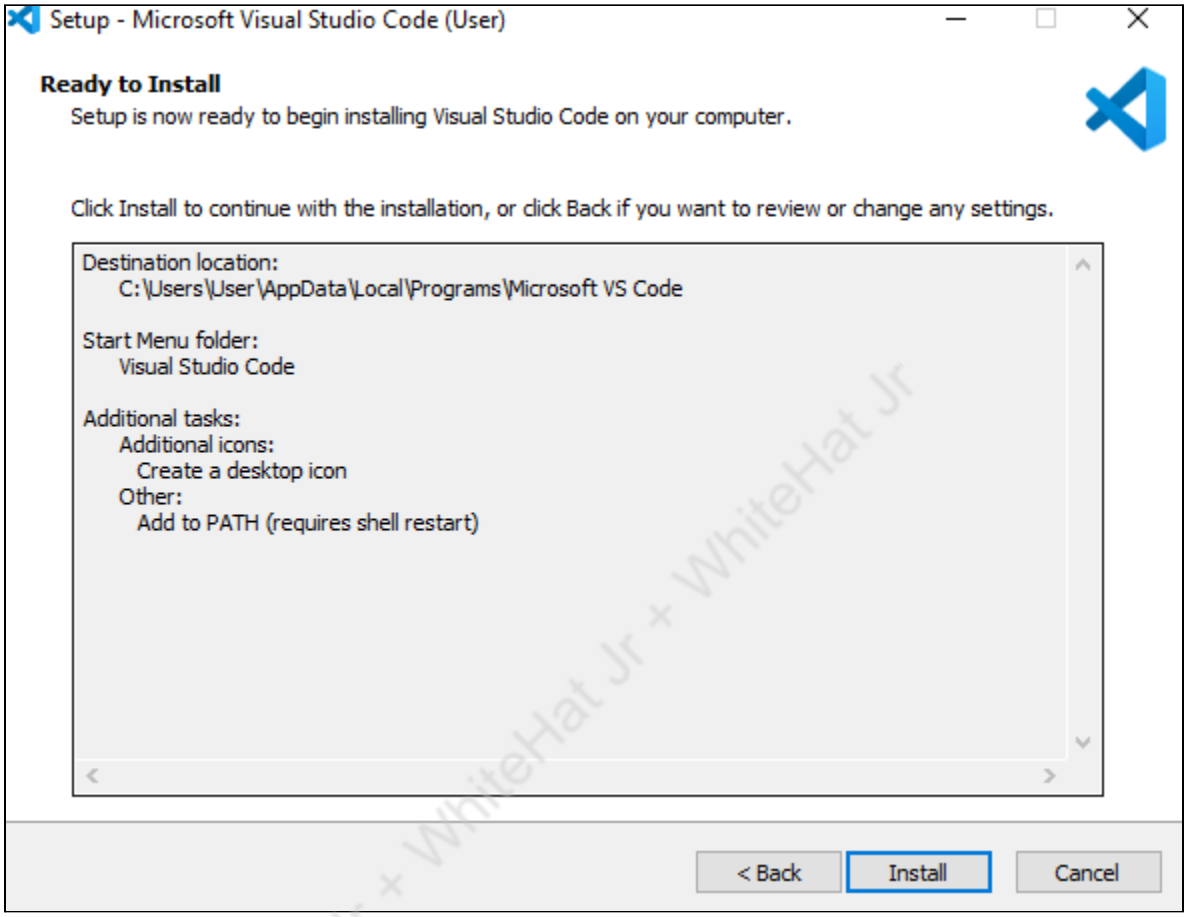
6) Click on the Next tab



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