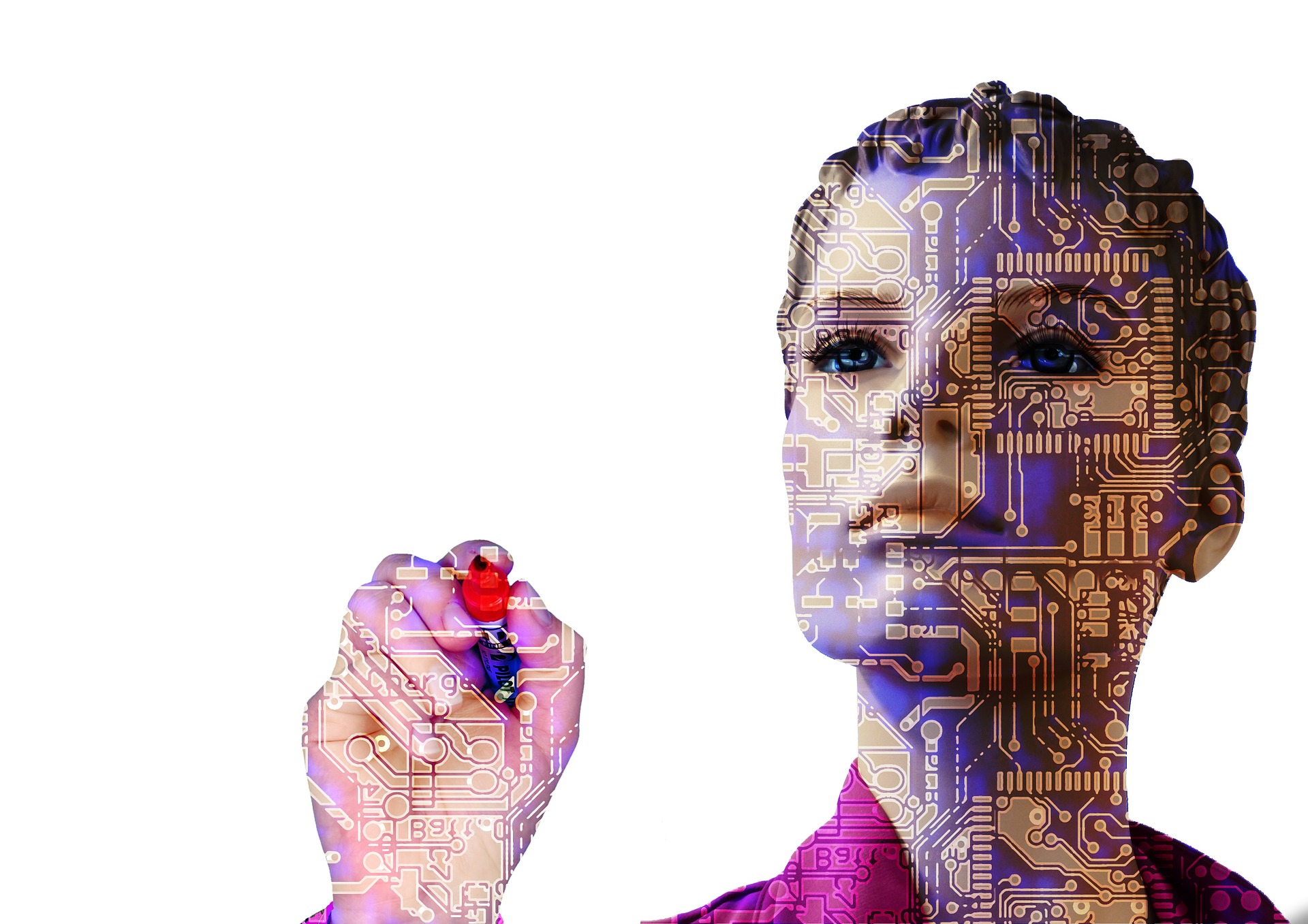
## What is backend development

 - Typically interacts with other machines - Holds business logic - Runs on server

## Why backend development

* Protect your IP
* Runs powerful machines
* Easily scalable (if written right)"
* Serve many clients

## How

* Code written on remote machine
* Typical languages include PHP, Python, Ruby, Java, JS

## Major Areas

* Database
* Routing
* Queuing
* APIs (Interaction with frontend and other applications)



sqllite

## Tools

* Languages : PHP, Python, Ruby, Java, JS
* Editors: Netbeans, PHPStorm, SublimeText, VIM
* Frameworks: Laravel, RoR, Django

## Install PHP, MySQL, Apache

* Please see <https://www.digitalocean.com/community/tutorials/how-to-install-linux-apache-mysql-php-lamp-stack-on-ubuntu>
* Install POSTMan https://www.getpostman.com/

## Task 1 Basic Computation

Create a html/cli program that takes in two numbers and outputs their sum.

## Task 1 Sample solution

1. Write out php file with the code

* <?php  
  $sum=$\_REQUEST['val1']+$\_REQUEST['val2'];  
  echo $sum;

1. Name the file add\_two.php
2. Serve the file

* php -S 0.0.0.0:8888 -t . add\_two.php

## Task 2

Write script that takes in a integer and gives the sum of all numbers preceding it. The number itself inclusive.

eg

Given 5 The system would return 15, (5+4+3+2+1)

## Task 2 Suggested solution

<?php  
$number=$\_REQUEST['number'];  
$total=0;  
  
for ($i = 0; $i < $number; $i++) {  
 $total+=$i;  
}  
echo $total;  
  
//Alternative solution  
echo "<hr>";  
$total=$number \* ($number-1) \* 0.5;  
  
echo $total;

The steps for serving this file are the same as previous

## Assignment

Write a php application that accepts comma delimited string and gives us their average

eg

Accepts string such as "12,15,25" and prints out 17.33333

## Thank You