

# Get Smart: With Java Programming



Yaman Omar Alashqar

*System.out.println("WELCOME TO THIS COURSE\n");*

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هُوَ اللَّهُ الرَّحْمَنُ الرَّحِيمُ

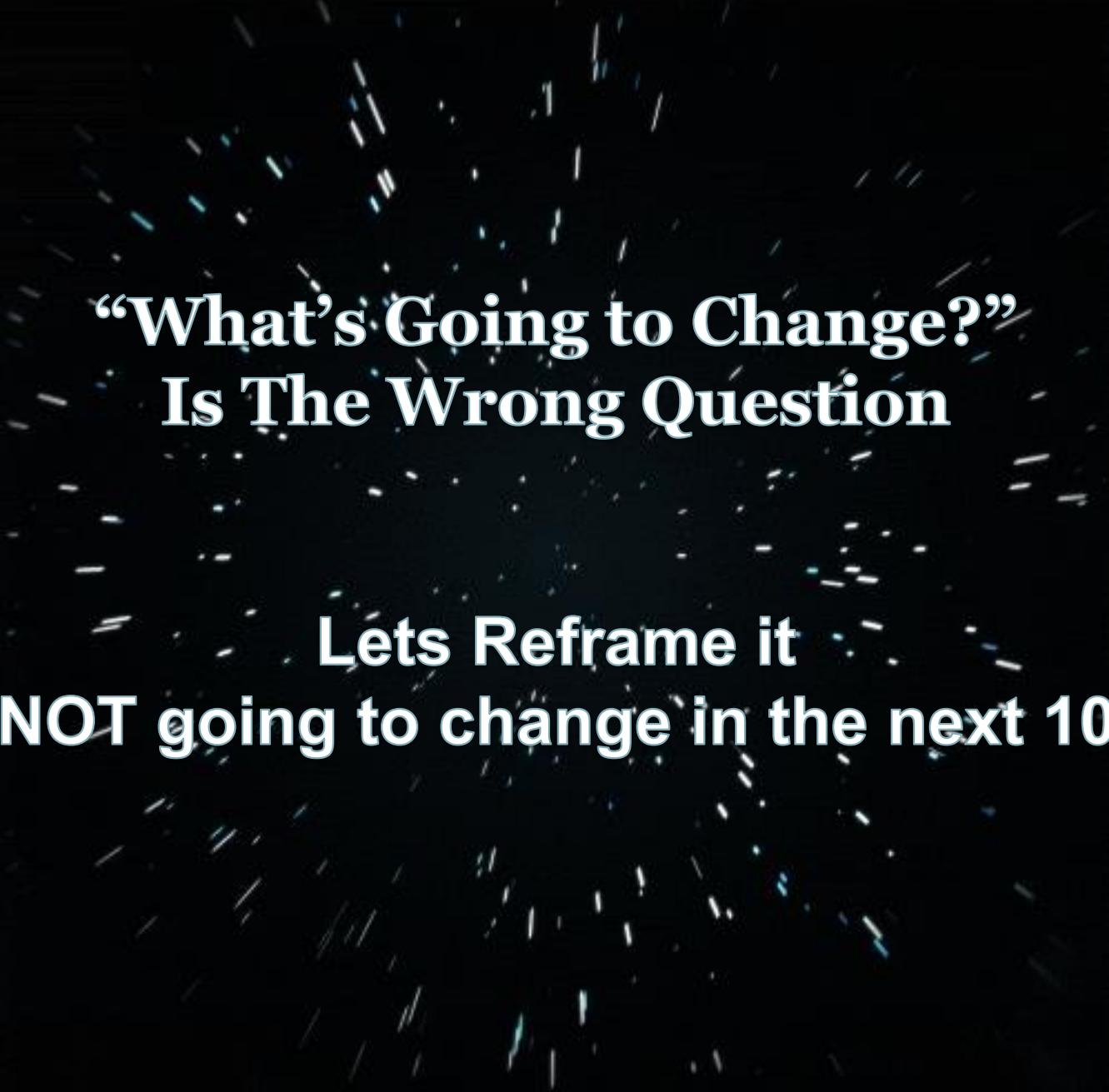
**One question Jeff Bezos is often asked  
is one we all need to ask ourselves,  
“What’s going to change in the next 10 years?”**



**It's a profound question because the world is changing so rapidly, and because the decisions we make now will determine our destiny.**

**Decide wrong, and you might find yourself on a sinking ship, watching as your whole industry goes bankrupt and the skills you spent years honing become obsolete.**

**Decide right, and you could be set for life. The top artificial intelligence programmers, for example, make as much as NFL superstars.**



**“What’s Going to Change?”**  
**Is The Wrong Question**

Lets Reframe it  
**“What’s NOT going to change in the next 10 years?”**

**“You can’t predict, you can prepare.”**  
— Howard Marks



**“You can’t predict, you can prepare.”**  
— Howard Marks

**“Predicting rain doesn’t count. Building arks does.”**  
— Warren Buffett



The person you will be in **5 years**  
depends largely on...



The **books** you read today.



The **habits** you adopt today.



The **people** you spend time with today.



The **food** you eat today.



The **conversations** you engage in today.



**Bezos talks about how focusing on stable customer preferences is a powerful foundation to build a company around.**

**I'd take that a step further: focusing on stable knowledge is a powerful approach to build a life around**

# Agenda (Next 15 Minutes)

- The IT Industry
- College Degree vs Courses
- Career Path
- Self Introduction (Part 1)



# The IT Industry

Programming is, quite literally, all around us.  
From the take-out we order, to the movies we stream.  
Code enables everyday actions in our lives.

Tech companies are no longer recognizable as just software companies instead, they bring food to our door, help us get a taxi, influence outcomes in presidential elections, or act as a personal trainer.



# The IT Industry

As programming becomes a larger part of our lives, it's vital that everyone has an understanding of what programming is and how it can be used.

Programming is important to our careers, but it also plays a key role in how we participate in politics, how we buy things, and how we stay in touch with one another.

Learning to code is an exciting journey.

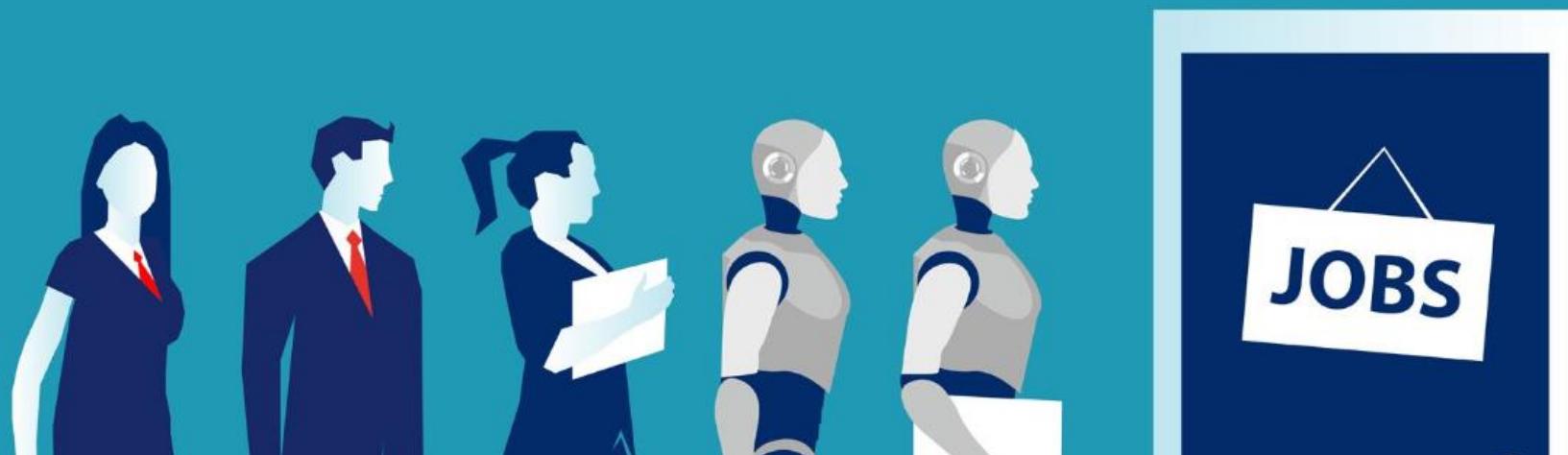
Whether your goal is to build a mobile app, search a database, or program a robot, coding is a skill that will take you far in life

# Computers can enhance all professions

As technology continues to advance, every machine will need a program that will operate the hardware to function

- FORBES: Is AI Going To Be A Jobs Killer? New Reports About The Future Of Work
- FORBES: The Alleged Threat Of AI Taking Away Human Jobs Is Not What We Think It Is
- BUILTIN: AI AND ITS IMPACT ON THE FUTURE OF JOBS

“ Artificial intelligence is poised to eliminate millions of current jobs and create millions of new ones — some of which haven't been invented yet.”



# The IT Industry

#computer\_science  
#software\_engineering  
    #AI  
    #data\_science  
    #cyber\_security  
    #CIS



Cilantro



Parsley

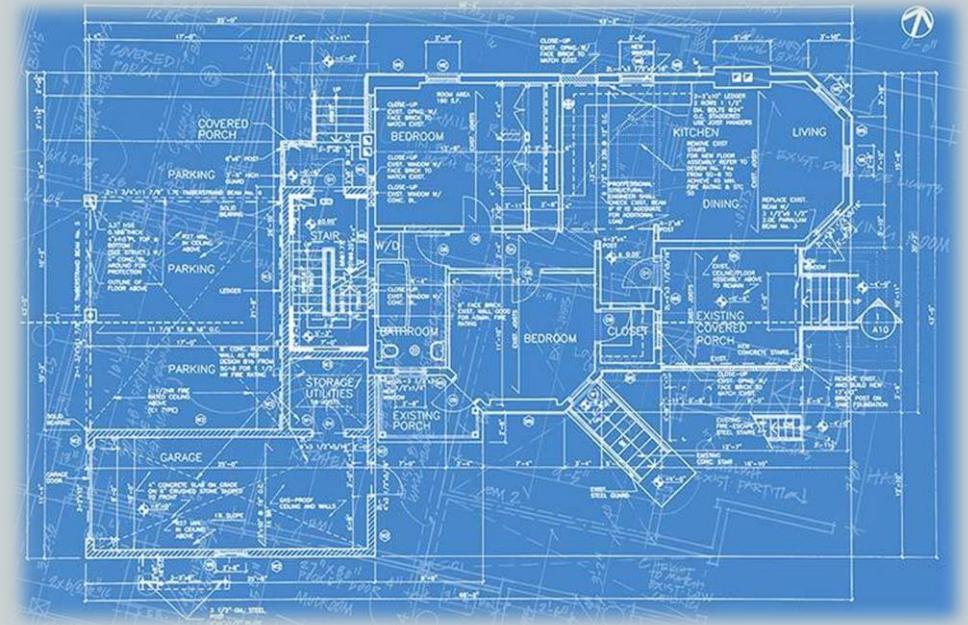
# Computer Science

- Emphasizes the theoretical side of computer software and hardware.
- Develop effective, reliable software.
- The broad nature of computer science allows learners to choose from many specializations and career paths, including those related to mobile computing, artificial intelligence, data analytics, and cloud computing.



# Software engineering

- Applies the standards and principles of engineering to design, develop, maintain, test and evaluate computer software.
- Software engineers may also be the programmers who test and perform quality assurance checks on new and developing software to ensure its efficacy and efficiency in its real-world application



# Computer Information Systems

- They use their programming and design expertise to integrate and maintain technologies, while employing project and administration management skills as they oversee each component of a project.
- They primarily focus on how technologies operate within a business environment, choosing the most effective option based on their organization's needs.



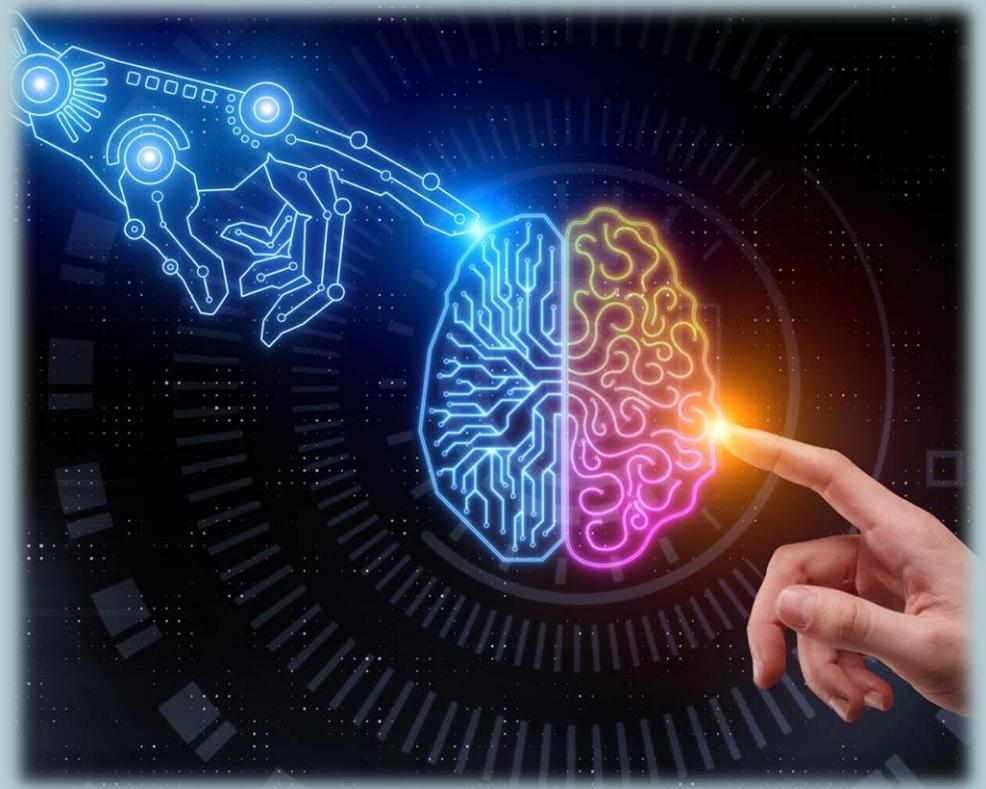
# Data Science

- Combines theory and practice, based on three main disciplines, Computer Science, Statistics and Mathematics, and real world application domains.
- Acquiring, managing, analyzing and extracting insight from data



# Artificial Intelligence

- Develop AI applications, such as speech recognition, facial recognition, and computer vision.
- Areas of study may include data mining, advanced mathematics, engineering, and robotics



# College Degree vs Courses

- Filling The Gaps
- Connecting The Dots
- Intellectual maturity
- Depth required for stability/development
- Time Commitment
- Curriculum
- Certificate
- Job Opportunities

**When choosing a new career path here are some good must-haves and nice to-haves:**

1. It must be relevant for the next 10+ years.



This skill should be valued many years in the future guaranteeing your job security.

**When choosing a new career path here are some good must-haves and nice to-haves:**

2. Demand for people with this skill must be higher than the supply.



# DIGITAL AROUND THE WORLD IN 2019

THE ESSENTIAL HEADLINE DATA YOU NEED TO UNDERSTAND GLOBAL MOBILE, INTERNET, AND SOCIAL MEDIA USE

TOTAL  
POPULATION



**7.676**

BILLION

URBANISATION:

**56%**

UNIQUE  
MOBILE USERS



**5.112**

BILLION

PENETRATION:

**67%**

INTERNET  
USERS



**4.388**

BILLION

PENETRATION:

**57%**

ACTIVE SOCIAL  
MEDIA USERS



**3.484**

BILLION

PENETRATION:

**45%**

MOBILE SOCIAL  
MEDIA USERS



**3.256**

BILLION

PENETRATION:

**42%**

**When choosing a new career path here are some good must-haves and nice to-haves:**

3. High salary regardless of your number of years in the industry.



You don't want to spend many years climbing the corporate ladder until you make a decent living.

# FACT

Software Developers  
earn an average salary  
of \$108,080 PER YEAR

Average freelance  
developer salary is  
\$2,538 PER WEEK



**When choosing a new career path here are some good must-haves and nice to-haves:**

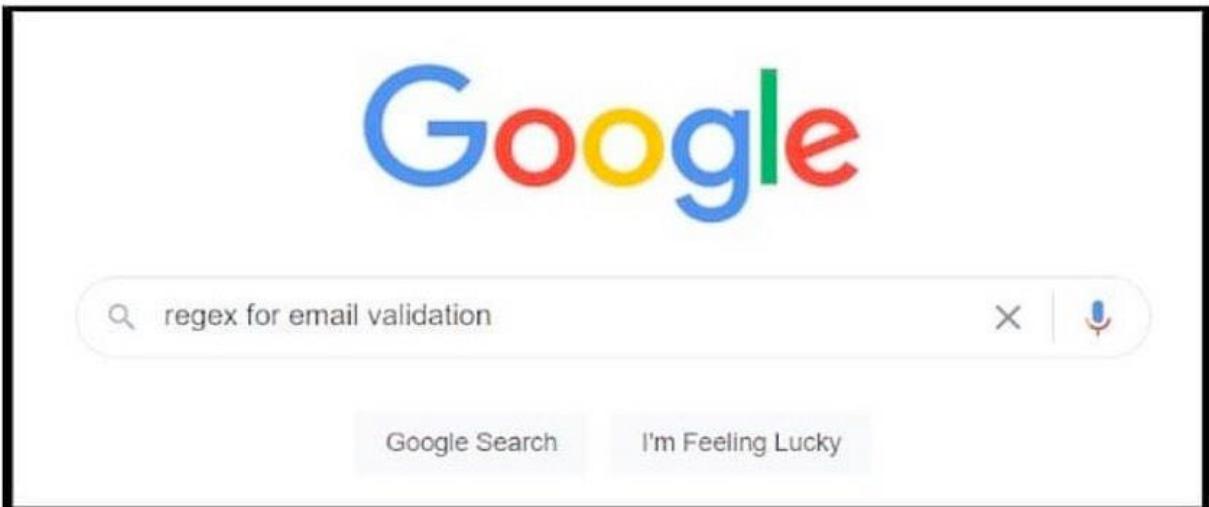
4. Ability to catch up to the top performers in the industry in the shortest amount of time.



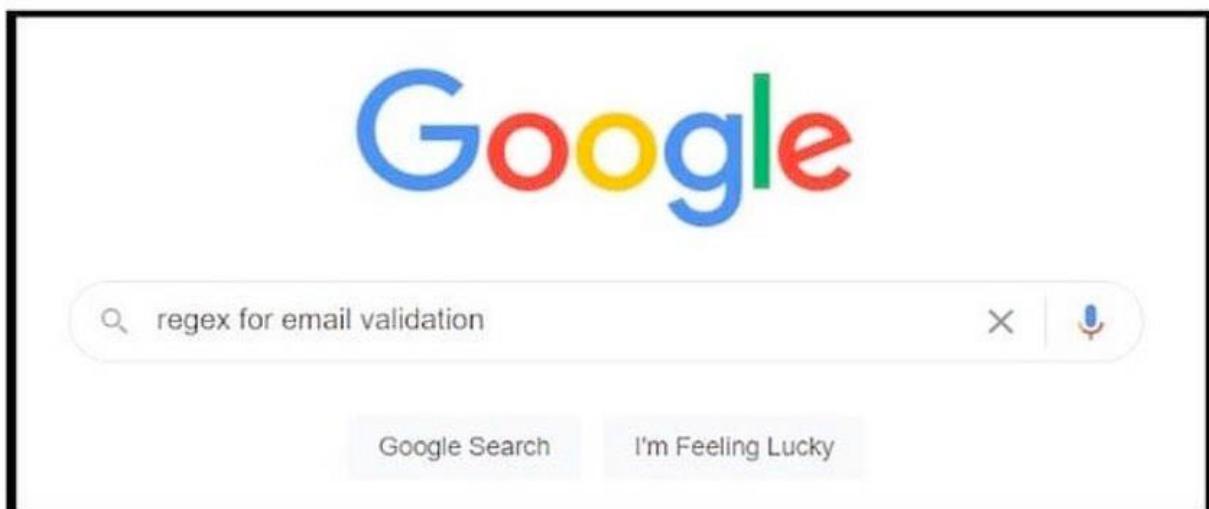
**Can little experience still get you employed?**

And can you close the gap as fast as possible to be considered a senior or an expert in the field?

# DAY1 OF PROGRAMMING



# 10 YEARS OF PROGRAMMING



**When choosing a new career path here are some good must-haves and nice to-haves:**

5. Have fun. This is the most important one.



Can you see yourself doing this 40 hours a week for a long time?

# Self Introduction

# Agenda (Next 15 Minutes)

- What is this course all about?
- Approach
- Learn Java? Kotlin? Python?





# IT'S TIME TO DIGITIZE YOUR IDEAS

# COURSE OUTLINE



## Get Smart: Java Programming

The Algorithm Of Success

2021 - 2022

Instructor: Yaman Omar Alashqar

### Overview

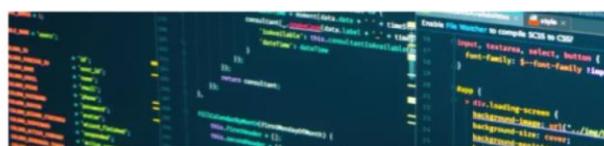
Learning how to program is essential to participate in the world around you. If you live in a world where everything is mediated through computers and software you need to be "literate" in the techniques that technology works, not to become disempowered and exploited by those who do understand and control it, in other words if you can't participate you will become a second class citizen.

Everything in modern life is mediated through software and online services; your work, your shopping, socializing with friends, entertainment, storing your memories, your notes, and so on.

The ultimate goal of the "Get Smart: Java Programming" course is to equip our amazing students with the right skills they need to build enterprise-scale applications with Java - which is among the top three programming languages in the world.

Our mission is to train our students for the jobs of the future, and to make programming skills accessible and convenient for everyone in the most efficient way to master the skills tech companies want, or even if you are here just for basic knowledge or to be literate and polished, we guarantee you to earn the skills you are looking for.

Technology plays a crucial role in our economy — programming is no longer limited for software engineers and computer scientists, today anyone can benefit from the power of programming and regardless of your field of work or industry, for sure you will love this course.



1

### Milestones

#### I. Introduction

What is a program? code? What is programming? Why should we care? And many more ...

#### II. First Java Program

We can now receive some input from the user, then process this information, to get some output. Isn't this amazing? Some more magic happens when playing around with this data.

#### III. Decisions and Repetition

Learn how to control the flow of the program by using conditions and loops.

#### IV. Methods and Functions

DRY!!! Don't Repeat Yourself, we'll learn all about this and much more. Remember this little secret called 'Recursion' ... So much fun and thinking here.

#### V. Object-Oriented Programming Basics

What is object oriented programming? What are the benefits of using OOP? What are objects? What is a class? What are constructors used for?

#### VI. Object-Oriented Programming Pillars and Advanced Topics

Abstraction, encapsulation, inheritance, and polymorphism (Fact: Poly means many, while morphism means different forms or structures).

#### VII. Data Structures, Collections and Algorithms

In this section we will have our minds blown out, we will need to concentrate and listen carefully, we will take a deep dive into Arrays, linked lists, stacks, maps and many more. Also we will introduce some famous algorithms, understand them, and compare them.

#### VIII. Miscellaneous (Error Handling, File Input/Output, Threads, Networks)

Filling the gaps, connecting the dots, dealing with different entities.

#### IX. Bonus (GUI, Database, Web, Selenium, Design Patterns, GIT)

Wrapping up, exploring some domains that Java is used in by doing.

#### X. Becoming the master

By this stage, you are now able to go into Stack Overflow and dev communities and share what you've learned. You will see questions from others and you'll be able to answer them. This is when you've made the journey from student to master.

#### XI. You'll still have a lot to learn (+Interviews)

The greatest lesson I've learned in life is that I always still have a lot to learn, and direction is much more important than speed. We will discuss where to go from here, and talk about the different jobs and positions, and some interview tips.

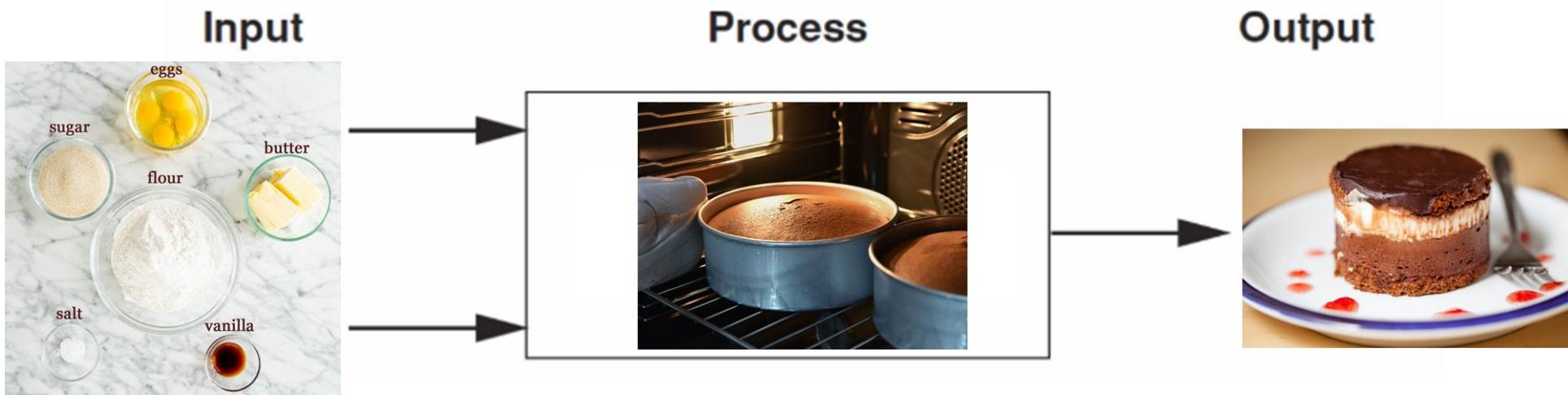
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# COURSE OUTLINE

- Program/Software/Application
  - What is a program?
  - Program vs software/application
  - Why do you need to know how to program?
- Programming languages
  - What is a programming language?
  - Human Language vs Programming language
  - What is Java? Why Java?

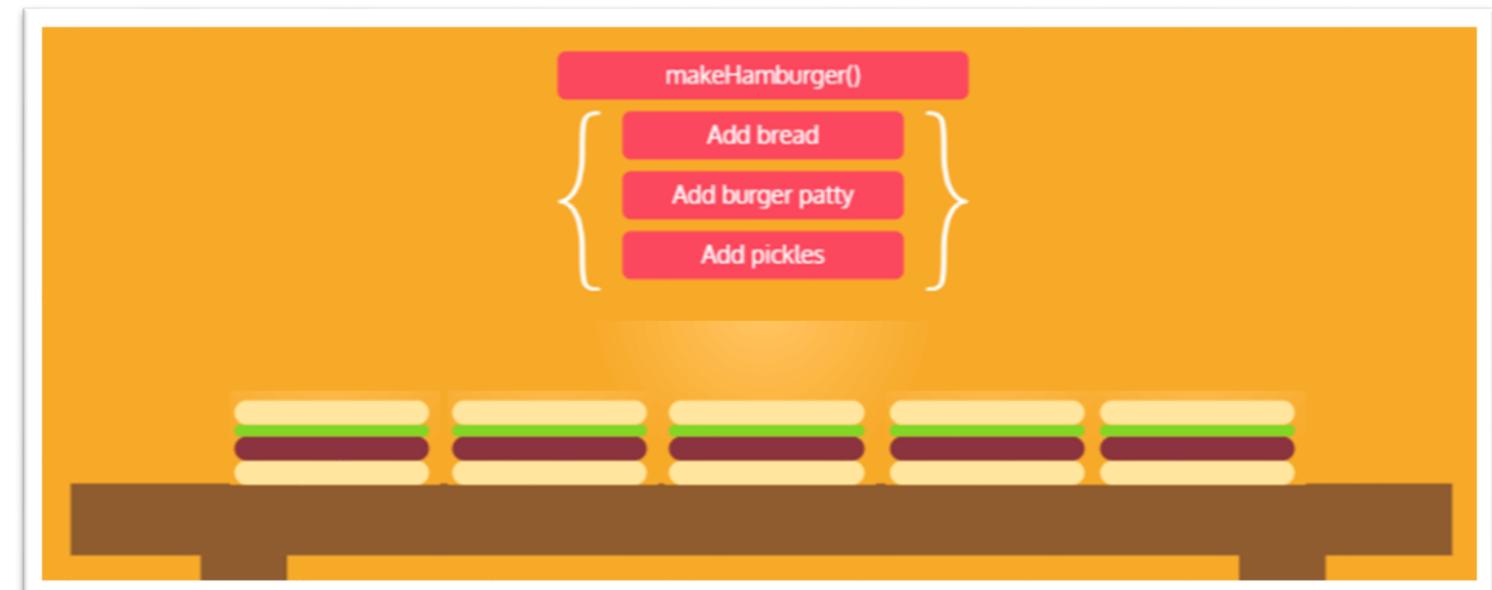
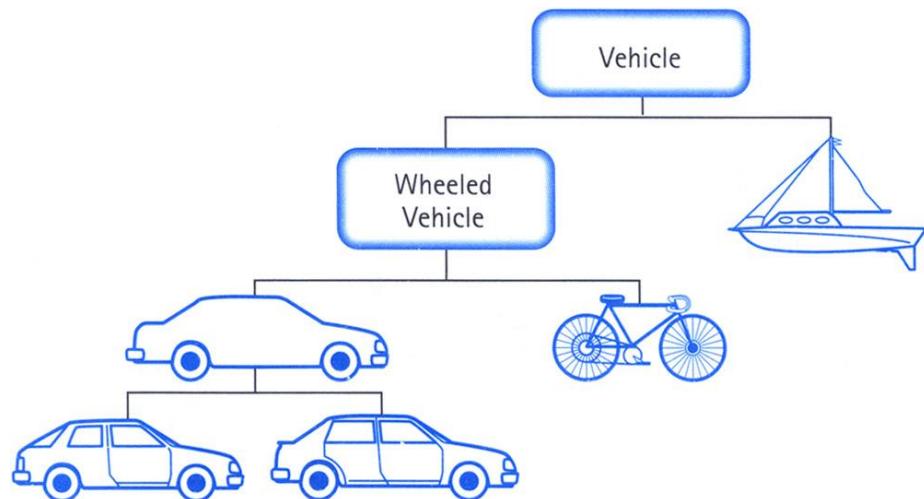
# COURSE OUTLINE

- Basics of programming
  - Input -> Process -> Output
  - Memory Concepts
  - Decisions and Repetition



# COURSE OUTLINE

- OOP (Part 1)
  - Objects / Class / Constructor
  - Methods



# COURSE OUTLINE

- OOP (Part 2)
  - Four Pillars



ENCAPSULATION



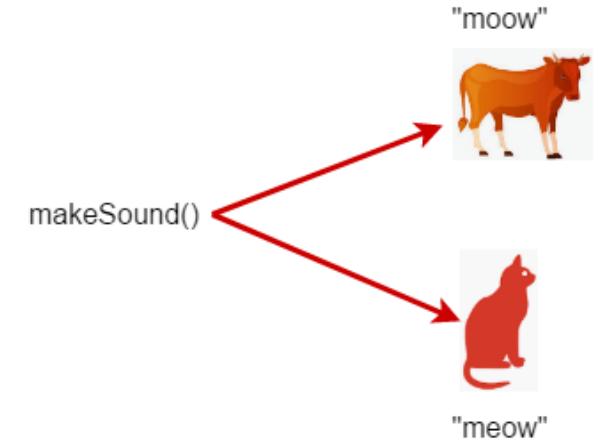
ABSTRACTION



INHERITANCE



POLYMORPHISM



# COURSE OUTLINE

## ENCAPSULATION



- Encapsulation is a process of wrapping code and data together into a single unit.
- Just like a capsule which is mixed of several medicines.

# COURSE OUTLINE

## ABSTRACTION



- Without Abstraction
  - "Boil the water" button
  - "Add the cold water to the kettle" button
  - "Add 1 spoon of ground coffee to a clean cup" button
  - "Clean any dirty cups" button
- With Abstraction
  - A "Make coffee" button

Showing only the essential  
features of an object to the user  
and hiding the inner details.

# COURSE OUTLINE

## INHERITANCE



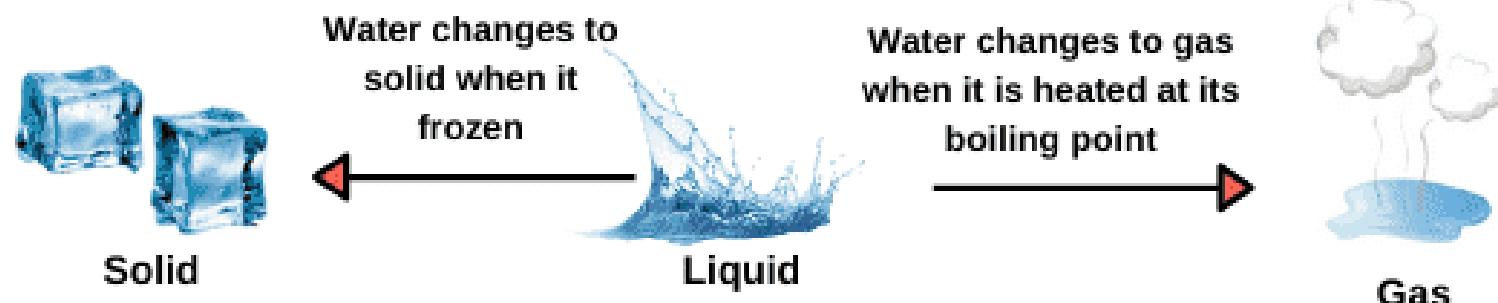
- Inheritance lets one object acquire the properties and methods of another object
- Reusability is the main benefit here.
  - We know sometimes that multiple places need to do the same thing, and they need to do everything the same except for one small part.

# COURSE OUTLINE

## POLYMORPHISM

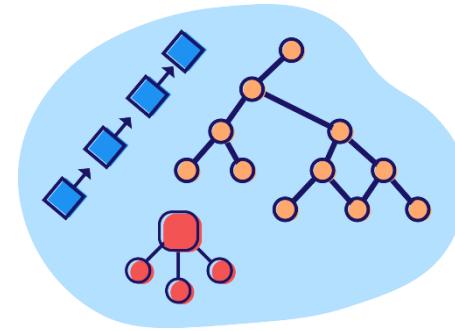


- Polymorphism means "the condition of occurring in several different forms."



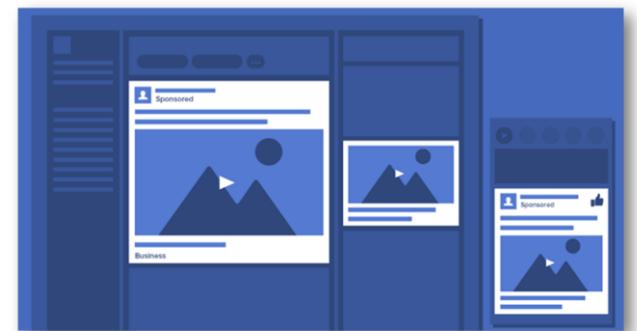
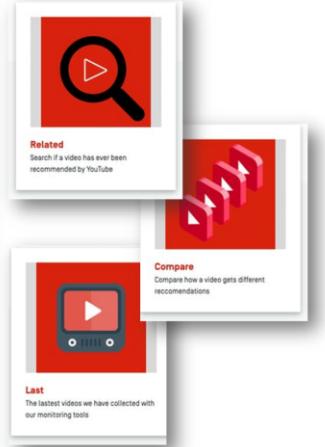
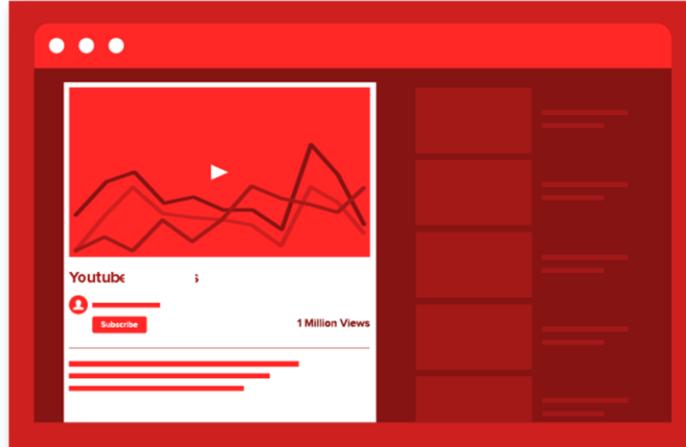
# COURSE OUTLINE

- Data Structures



# COURSE OUTLINE

- Algorithms
  - Sorting
  - Searching
  - Famous Problems



# COURSE OUTLINE

- Design Patterns



# COURSE OUTLINE

- Clean Code

When the code is a mess  
but it's working anyway



# How Will We Learn?



# How Will We Learn?

- The trick is to get your brain to see the material you are learning as really important, crucial to your well-being.
- Maybe as important as a tiger.

# How do you get your brain to treat Java like it was a hungry tiger?

- **Slow Way:**
  - Repetition
    - With enough repetition your brain says:
    - “You keep looking at this over and over, this must be important to you”
- **Fast Way:**
  - Increase brain activity ...
    - Putting words with pictures which makes your brain think how they could relate, and this causes more neurons to fire.
    - We used the power of repetition (but not the boring way) instead we repeat the same concepts in different ways and sometimes multiple scenarios or examples.
    - Using Metaphors
    - Exercises and Labs
      - Your brain will remember the tasks you do more than the information you read

# Our Classroom Experience

we've crafted our entire learning path to be the most effective way to learn employable job skills in the careers of the future.



Learn by doing  
Job-focused content  
Project-based  
Active learning  
Real-life Tasks  
In Class Labs  
Online Labs  
Quizzes

**Our mission is to train the workforce in the jobs of the future and to make learning in-demand skills accessible and convenient for everyone in the most efficient way to master the skills tech companies want.**



# Cornell Notes

## 1. Take notes in the largest section of the page.

While listening to a lecture, take notes in the right-hand section of the page.

- Include any information that is important in the slideshow.
- Listen out for points that are emphasized or repeated, as these are likely important.

## 2. Key points & Questions

After the lecture summarize the key points.

- Write potential questions
- Short keywords of the main ideas

## 3. Summarize the main ideas

Just do it in your own words, imagine you are explaining it to somebody else

Key Points	Details

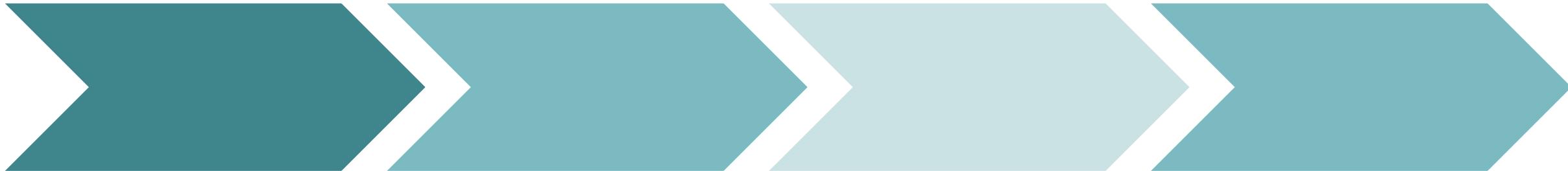
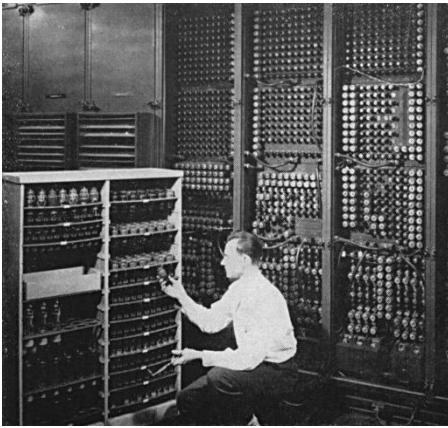
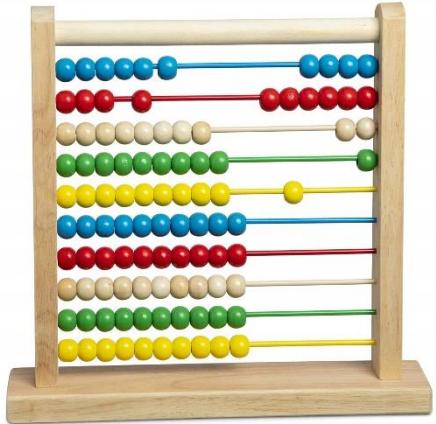
**Summary**

# Agenda (Next 15 Minutes)

- Learn Java? Kotlin? Python?



**Why do you need to know how to program?  
in order to be able to tell a computer what you want it to do.**



# أرْفَل عَالَم الْكِنُولُوْجِيَا



لِفْسَرَةِ  
كُوُرْدِيَا

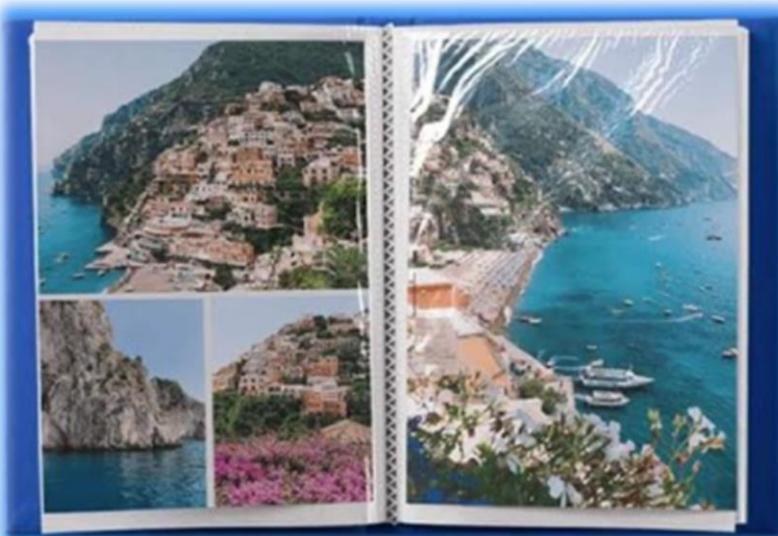
## جَهَازْ حَابْ آلِي مِنْ كُوُرْدِيَا

### وِ الدَّفَاجَاهَةَ

- سُرْعَة فَانِقَهَة لَارَالْعَاب.
- رَطَاقَه صَرِيَّاتِ سِيرِيو.
- لَوْحَه مَفَاعِيْج.
- قَرْص صَلْب 40 مِيجَا بَايِت.
- رَطَاقَه رَسُومَيات 128 بَتْ مِنْ نَفِيْيَا.
- هَارِقَه شَاسَه لِراَهَه الْعَيْنِ.
- سِمَاعَات فَسِيَّه.
- اَسْتَرْعَب بالثَّاهَه بَدَقَه 800 يَكْسَل.

### يَشِيزْ بِمَوَاصِفَاتِ خَارِقَه

- مَعَالِجْ مَرْكُزِي بِاَنْتِيرِيم فُورَرْ مِنْ اَتَل.
- زَاكَرَه عَشْرَاهِيَّه 512 مِيجَا.
- قَرْص صَلْب 40 مِيجَا بَايِت.
- رَطَاقَه رَسُومَيات 128 بَتْ مِنْ نَفِيْيَا.
- حَمْرَانِ أَقْرَاصِ فَلُونِيِّه.
- مَسْفَلِ أَقْرَاصِ فَلُونِيِّه رِسَك.
- زَيَّلَامْ تَسْفِيلِ وِينْدُوزِ اَلسَّبِيِّيِّه.







## Why you would want to go down this path?

- A. You want to be working in an industry where there is a high demand for the skill and many possibilities to be in important roles at the top of the food chain.
- B. Location independent. You want a skill that allows you to go anywhere in the world and still be able to find a job easily. If you decide to move to Iceland tomorrow, you want to make sure that you won't have issues finding a job.
- C. You've noticed the difference between 2010 and 2021 and how much technological progress we have made in those short 10 years. You want to be at the forefront of an industry that is impacting the world.

## Why you would want to go down this path?

D. We interact with technology on the daily, and you want to not be left behind in the dust as these take over our future. You want to understand and be able to pick up the skills underlying all of these technologies: programming is a great foot in the door to these industries.

# Which programming language should I start learning first?

A programming language is simply a tool.

It is no different from any other tool in your hardware box.

If you want to hammer a nail, you should be using a hammer.

If you want to fix your water pipes, you'll probably need a spanner.

Yes, it's possible to hammer in a nail using the side of the spanner and the same programming language can be used to solve different types of problems.



# Which programming language should I start learning first?

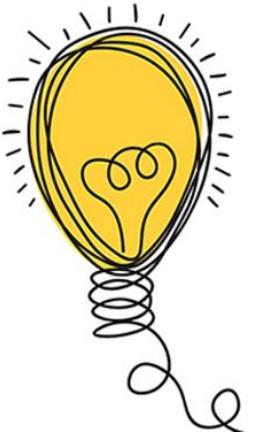
The carpenter will tell you that his favorite tool is a hammer and the plumber will say it's the spanner, but it still doesn't make it the "best tool to fix things".

A frontend web developer will tell you that JavaScript is the best language to learn for a beginner. A statistician will advise you that you'll be best served with the R programming language. But at the end of the day, all that matters is what you are trying to do with your tool.

But the good news is the core programming concepts: loops, conditionals, functions, etc. they're all the same. The difference is mostly syntactical.

In English, we have werewolves, in German they have Werwölfe. It's still the same.

So, decide on the task that you are trying to accomplish, then pick the best tool for that task.



The skill that most employers look for when recruiting is  
**the ability to think.**

Knowledge is valued in a world where information is hard to come by.  
In the 1800s, only the rich had access to good books and good teachers.

Now, everyone has all the information they had and more at the tap of a mouse.  
Information is losing value, the ability to think is the stock to buy.

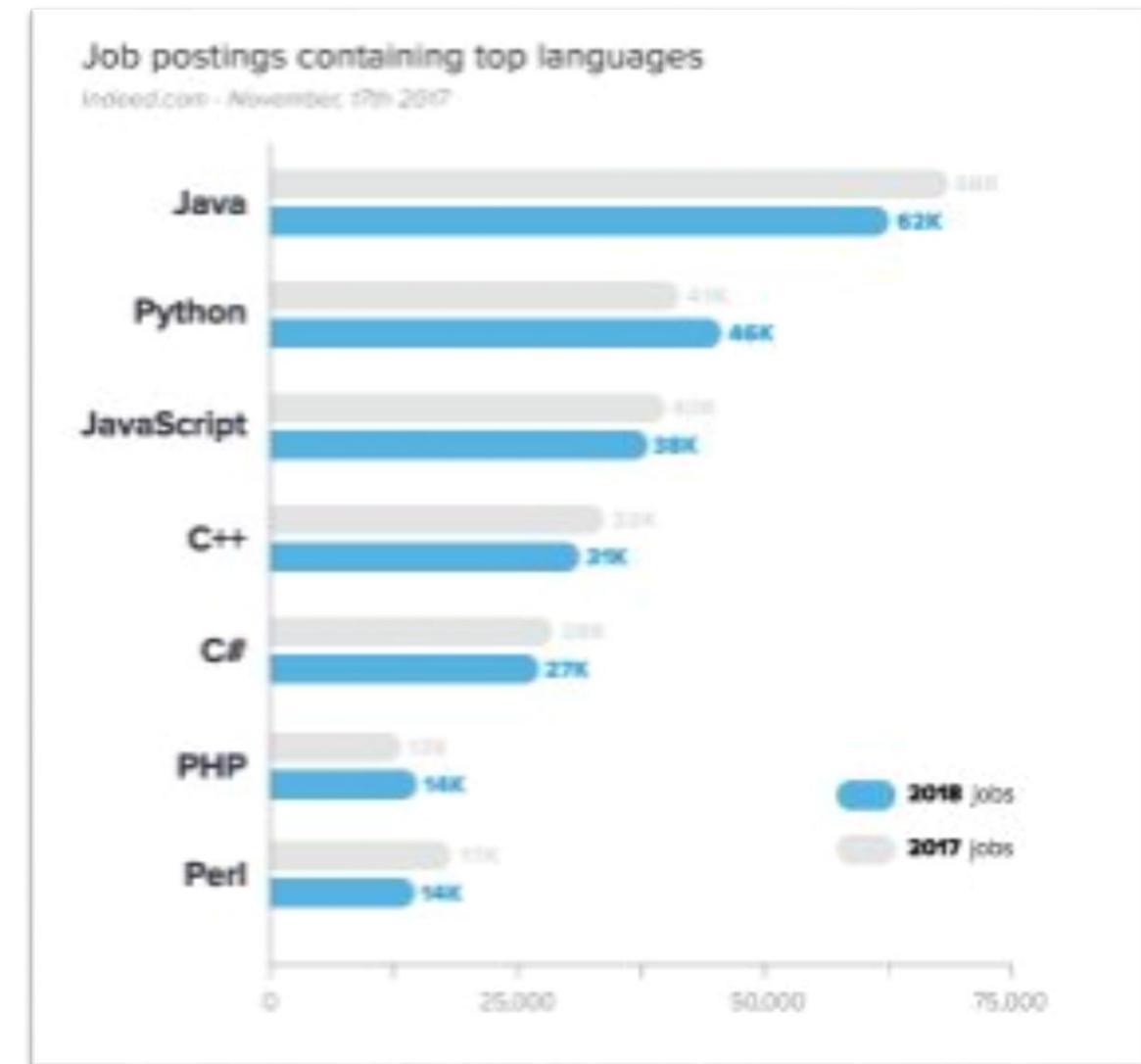
# Why would you choose to learn Java?

The reality is that there is a lot of computer languages out there. It's in the hundreds. Why would you choose the Java language?

The number one reason is its popularity. According to many official websites that track popularity of languages, Java is either #1 or in the top 3.

Popularity means more companies and their staff are using it, so there are more career opportunities available for you if you are skilled in the language.

The last thing you want to do is pick a language that is not in mainstream use. Java came out in the 1990's and is still very popular today.



# Where Is Java Used?

## Android Apps

All Android applications are written in Java programming language, with Google's Android API, which is similar to JDK



## Server Apps at Financial Services Industry

Lots of global Investment banks like Citigroup, Barclays, Standard Chartered and other banks use Java for writing front and back office electronic trading system, writing settlement and confirmation systems, data processing projects and several others

## Java Web applications

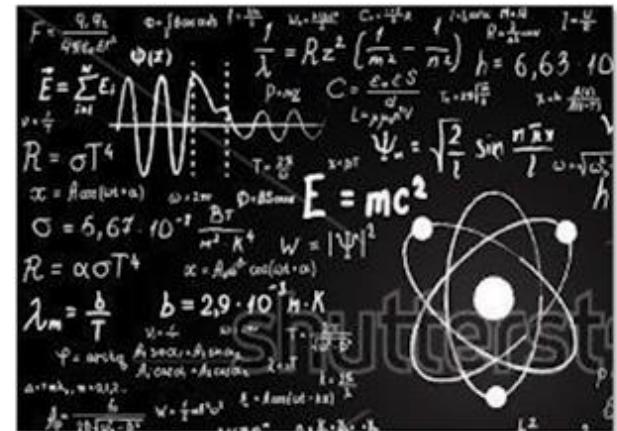
Many of government, healthcare, insurance, education, defence and several other department have their web application built in Java using Servlets, JSP, Struts, Spring MVC



# Where Is Java Used?

## Scientific Applications

- Java is the choice of many software developers for writing applications involving scientific calculations and mathematical operations
- These programs are generally considered to be fast and secure, have a higher degree of portability and low maintenance



## Big Data technologies

- Hadoop and other big data technologies are also using Java in one way or other
- For Example Apache Kafka components API – Producer and Consumer are written in java

## Internet of Things (IOT)

Internet of things which is a way to blend hardware and software together to solve problems faced in real life.



When you start out programming, you don't know the language that well.

When trying to solve challenges, or write your own programs, you may struggle because you are focused more on the “controls” – e.g. “Which keyword is used to exit a loop again?”.  
Or, “Do I put a semi-colon at the end of the line that ends in a left curly brace?”. And so on.

But as you persist, the right keywords come instinctively. You start thinking along the lines of “ok, so I have to exit this loop if the calculation has completed, and then I have to save the results to a file”.

Your brain instinctually tells your fingers to type “break;” to exit that loop, and remembers not to put a semi-colon on a line with a left curly brace, because that's a code block, and you don't put semi-colons there.



I have taught many “first time programmers”.  
And the good news is that I have rarely found a  
student that couldn’t learn to program.

I see it as a basic human skill, just like reading,  
writing, and arithmetic.

Anyone can do it, it is part of our human capacities,  
but does need to be learned.

It's about showing persistence to succeed,  
When you are starting to learn any skill, you will get frustrated.  
You might scream pull your hair ...  
You need to persist through that.  
Just refuse to give up.

It takes time, dedication and persistence to become a programmer.  
If you don't understand something, research, re-try the exercise.  
– Sometimes 2,3 or more times!

If you are frustrated, or worried, or ready to give up, it's likely you are at the  
“start of the game” when it comes to programming.

**CODING IS LIKE ANY OTHER SKILL...  
FOR EXAMPLE SWIMMING, YOU LEARN IT BY DOING, AT FIRST  
IT'S VERY HARD, YOU'RE SCARED**

**BUT THEN YOU DO IT WITHOUT THINKING  
SO LEARNING TO CODE IN A WEEK IS NOT POSSIBLE**

# 8 Qualities That Make a Successful Programmer!

Puzzle Solver

1



Always Learning

2

Curious

3

Self-Disciplined

4



5

Good at Communicating

6

Adaptable

7

A Logical Mindset

8

Has a Love of Technology

**WHAT WILL WE LEARN?**

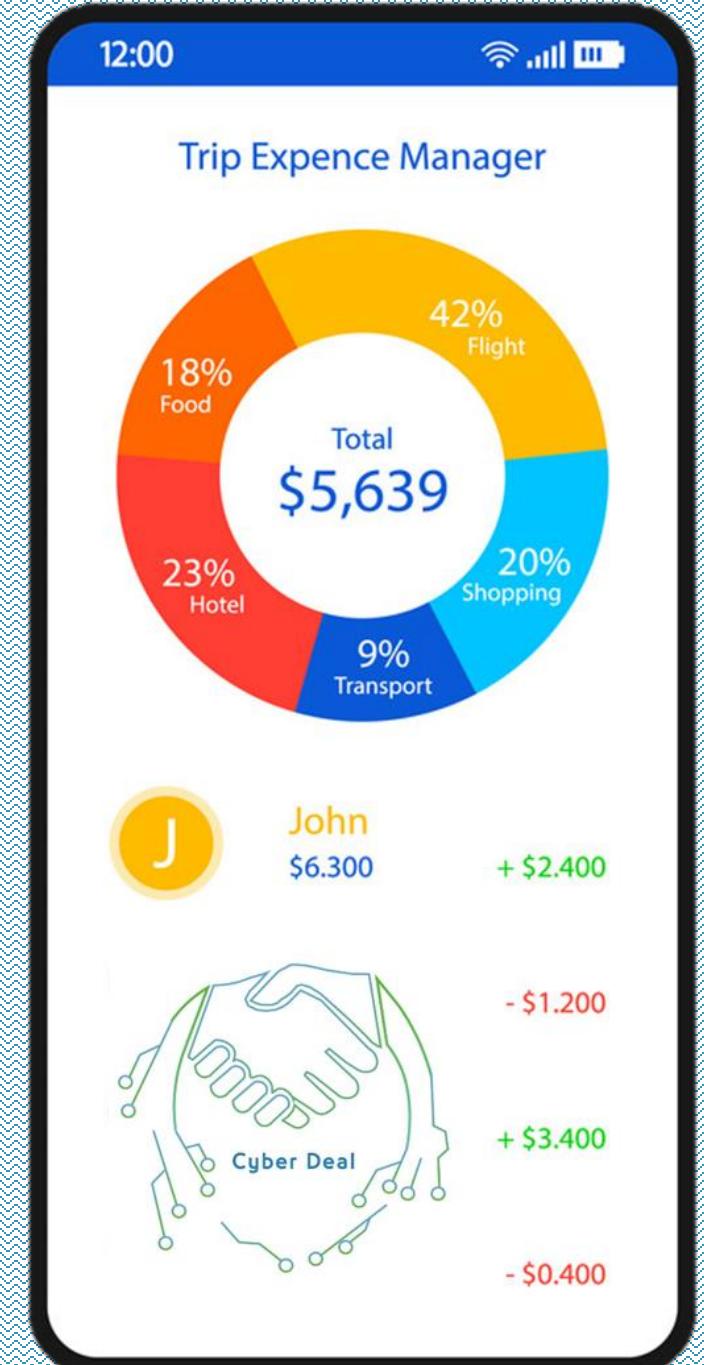
**EXAMPLES?**

# Travel expense tracker

The user will enter the cost for each of the following:

- Travel cost,
- Food,
- Accommodation,
- Transportation,
- Gifts

Then the program will calculate the total cost for this trip.  
Also the program will display the percentage of each category.



# CV BUILDER

This system will take little information from the user and will provide him with a fully developed CV in return



Enter your name, contact information, your skills, experience

**Yaman Omar Al-Ashqar**  
*"Exploration, pursuit, and motivation are my framework for success"*

[yallahqar97@gmail.com](mailto:yallahqar97@gmail.com) +962 799 668 111 [linkedin.com/in/yaman97](https://linkedin.com/in/yaman97)  
 [www.cyberdeal.vision](http://www.cyberdeal.vision) [youtube.com/cryyaman](https://youtube.com/cryyaman)

**Summary**

Skilled developer with over 2 years of fullstack development experience creating dynamic web and mobile applications. This experience has enhanced my abilities in designing, implementing, testing, and upgrading web and mobile apps. If you take a moment to review my qualifications, I'm sure you'll keep me in mind.

**EXPERIENCE**

**RealSoft Advanced Applications — Software Developer**  
Amman, Jordan 2019 - Present  
• Redesigned some pages for large products which enhanced the user experience.  
• Closed 5 major OWASP security threats and vulnerabilities.  
• Prepared 3 Technical sessions aiming to share knowledge across the company.  
• Conceptualized and implemented an automated testing framework for various products owned by the company to test many aspects in each product using Python 3, Selenium, Pytest, PyAutoGUI, opencvpy, and web technologies, which accelerated the process.

**Smart Apps Jo — Mobile Developer (Freelancer)**  
Amman, Jordan 2018 - 2019  
• Planning, analyzing, and preparing wireframe's and demo's  
• App development and providing technical support for clients

**Population and Housing Census Project — Technical Support**  
Jordan, 2015 - 2016 (Amman, Na'ur, and As-Salt)  
The largest statistical project in the country's history, I configured the devices used for the project and I provided in-field technical support in different cities across the country

**RealSoft Advanced Applications — Trainee**  
Amman, Jordan 2013 - 2014  
• I learned how to budget my money and improve my time management skills.  
• Android [Java] projects, in addition to some photoshop and illustrator tasks

#Courses #Websites #Designs #Presentations — Freelancer  
• More than 50 Projects implemented for individuals on freelancing platforms and groups.  
• Effectively translated 5 client's requirements into application designs and demo's.  
• Online programming and statistics courses (Zoom/Youtube) for 1000+ students.  
• Tutoring college students (computer science related subjects) since 2017.

**EDUCATION**

**Princess Sumaya University for Technology — Bachelor's degree**  
Amman, Jordan 2010  
• Participated in many student clubs and organizations, I led and started some.  
• Instructor/tutor for fellow students (through the registration department)  
    > Coding and statistics courses (based on the ABET syllabus)  
• More than 100 hours in credit & maintained 100% positive feedback

# ANSWER PERCENTAGE

- Number of people who answered “A”
- Number of people who answered “B”
- Number of people who answered “C”
- Number of people who answered “D”

The image shows a game show set for the '50:50' segment. On the left, there are four options labeled F1 through F4. F1 has a '50:50' button, F2 has a telephone icon, F3 has a red 'X' over a speech bubble, and F4 has a large white 'W'. To the right is a studio set with a host and audience. A bar chart on the far right displays the following percentages: A (35%), B (41%), C (0%), and D (24%).

ما هي الآية التي جمعت كل حروف اللغة العربية؟!

A: آية الكرسي      B: الآية الأخيرة من سورة الفتح  
C: الآية الأخيرة من سورة الكرسي      D: لا يوجد

# CELLPHONE AIRTIME FEES

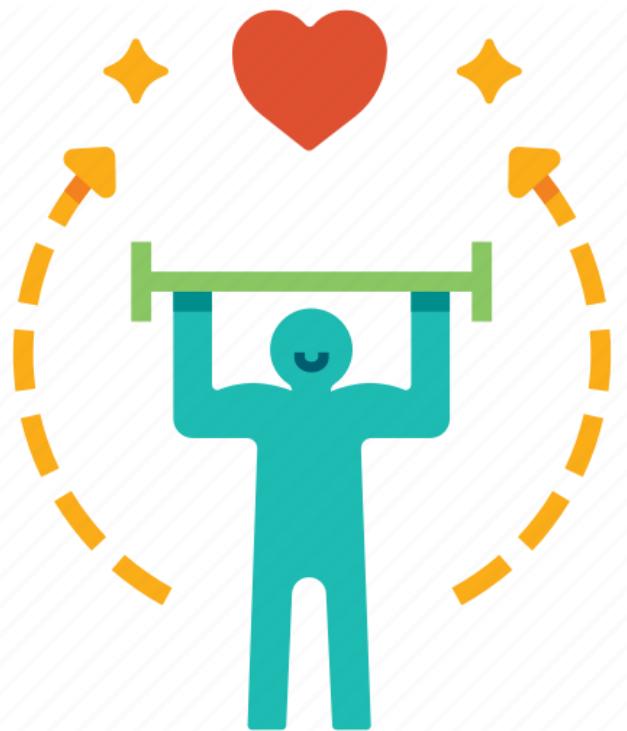


- Call duration
- Provider
- Charge per minute (seconds)

Changes Our Lives

## Cookie Calories

A bag of cookies holds 40 cookies. The calorie information on the bag claims that there are 10 servings in the bag and that a serving equals 300 calories. Design a program that lets the user enter the number of cookies he or she actually ate and then reports the number of total calories consumed.



# Electricity Bill Calculator

Units used  
Price (Per Unit)  
Additional Fees  
Tax



Read Speed From A Sensor or from location data

**IF STATE = “D”**

If speed is < 20 (Gear 1)

If speed is  $\geq$  20 and speed  $\leq$  40 (Gear 2)

.

.

**ELSE IF STATE = “R”**

....

**ELSE IF STATE = “P”**

**“LOCK”**

.

.

.

.

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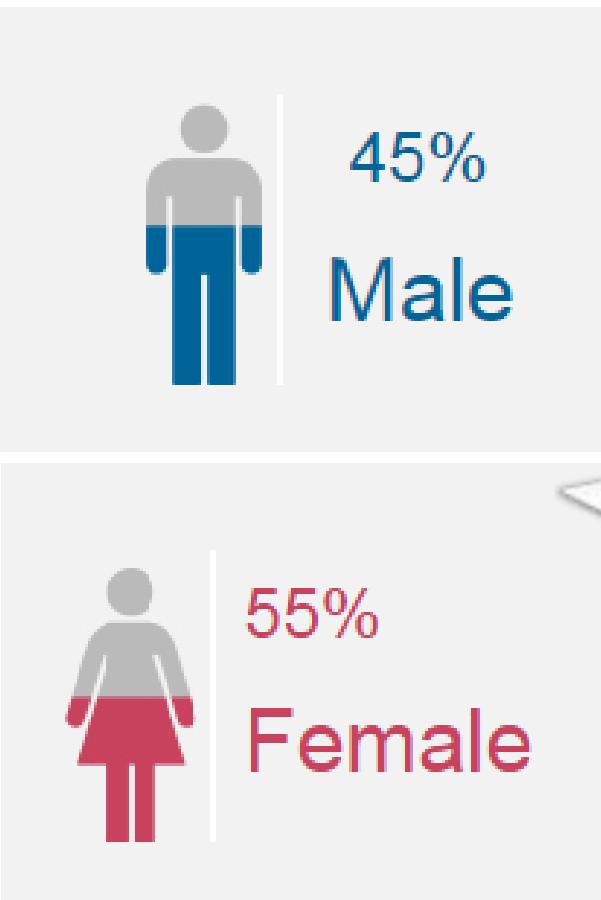
# Simple banking program

Basic bank operations:

- check balance,
- deposit,
- withdraw,
- transfer,
- exit



# GENDER & AGE PERCENTAGE



# GIFT CARDS



Card Holder  
Random Generated ID

# Discount Calculator

amazon.com



# A PROGRAM TO CALCULATE THE SEMESTER FEES



التسجيل 

- مواعيد التسجيل
- السحب والإضافة
- إحتساب الرسوم
- امتحانات الفصل القادم
- تسجيناً لشعبة مخالفة

Last month a tea recipe calls for the following ingredients:

- \* 100 Tea Bags
- \* 23.5 KG of Sugar
- \* 60 Leaves of Mint



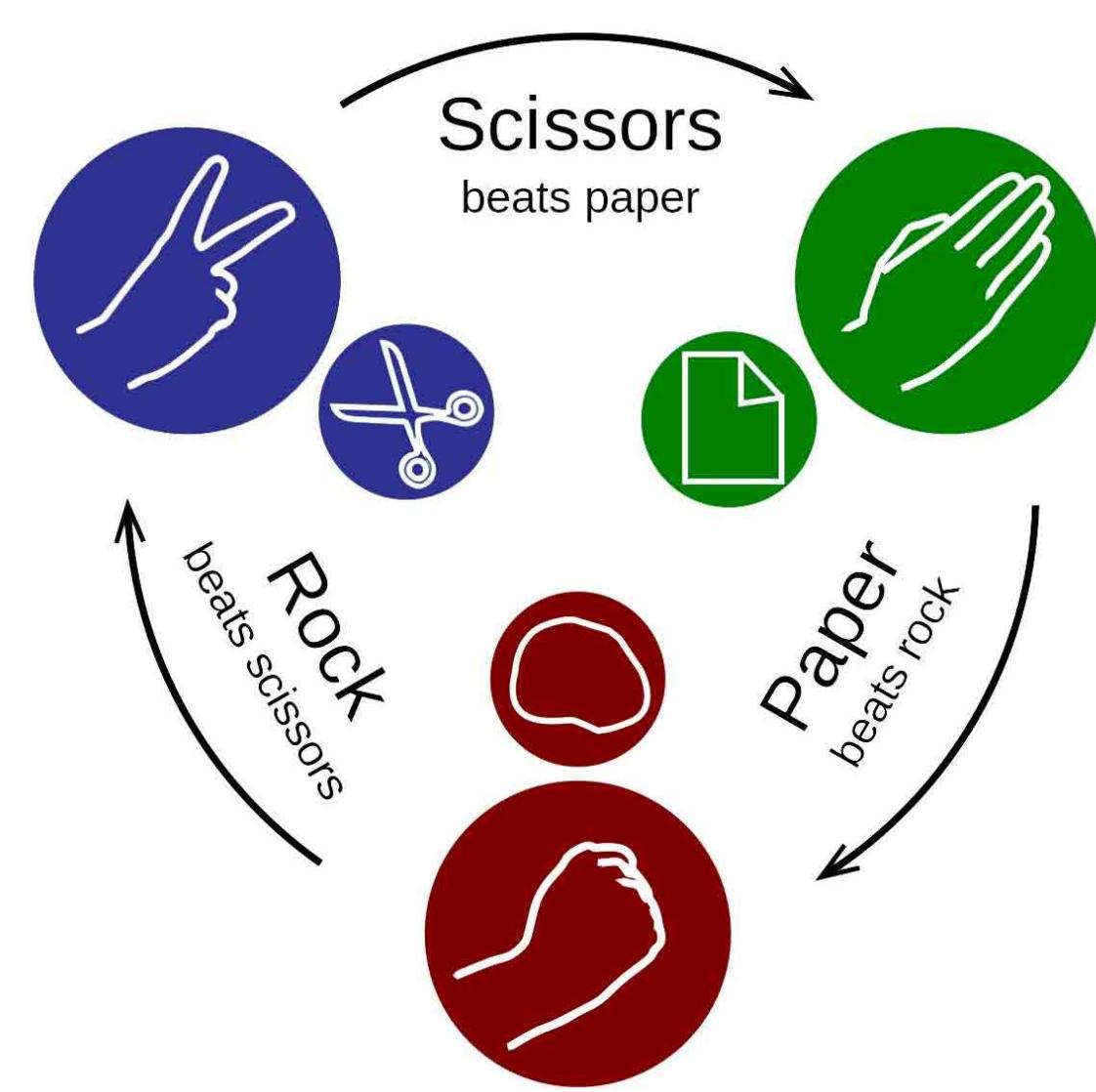
The recipe produces 48 cups with these amounts of the ingredients.

Design a program that:

- \* asks the user how many cups he wants to make,  
then display
- \* how much is needed of each ingredient  
for the specified number of cups.



# Rock Paper Scissors Game



# Restaurant System

**Display the following statistics for a Restaurant:**

- The total number of served Soft Drinks
- The total number of served Sandwiches
- The total sales for the restaurant
- The average cost per order
- The maximum and minimum order cost
- Number of orders with cost above average
- The number of orders with no Soft Drinks
- Number of orders
- Send an auto E-mail on Wednesday



- Program to find the mean (average) of 4 numbers
- Program to find the area of a rectangle / square / circle
- Program to convert from C To F/ km to m / etc...
- Program to calculate the age
- Program to find the duration of the day
- Program to calculate salary based on working hours
- Program to reverse your first name



# INTERVIEW QUESTIONS

I go to the gym regularly and do work out. In this way, I remove my stress. I believe that physical exercise is a great stress reducer.

## - How do you deal with an angry or irritated customer?

- I would try to find out exactly what the problem was, and evaluate if there was something I could do to make it right.
- I would ask the customer to explain his problem and carefully listen to him. After that, I do my best to solve his problem. If that problem is not regarding my work area, I spoke to someone who could help him immediately.

## - What is the disappointment in your life?

I don't feel that I have faced such type of situation.

## - What makes you angry?

I am not a short-tempered person, but I feel a bit of annoyance when someone disturbs me in my work without a genuine reason. Although I am an even-tempered person, when I get angry, I try to channel my negative feeling in my work.

## - What is your favorite book?

## PAY ATTENTION TO THESE:

### ◦ JOB TITLE MATCH + PROFESSIONAL SUMMARY

- Most recruiters will match candidates with exact job titles to the open position.
- Your professional summary should cover three things:
  - A brief overview of your experience level, with how many years you've been a developer.
  - Highlight your biggest win as a developer, with quantitative data to back up your claims.
  - Mention of a few technical skills or languages you're proficient in. (Mention the ones listed in the job description)

### ◦ SKILLS AND KEYWORDS

- Try to mention skills and keywords mentioned in the job description
- Use varied vocabulary
  - Rather than 'managing' everything, diversify your wording to 'spearheading', 'leading', 'directing' and 'overseeing'.
  - Rather than repeating 'developing', say 'creating' or 'building'.
- The right stack of technical skills to succeed
  - Add only skills that are related to the position
  - Customized for each job

### ◦ ADDING MEASURABLE RESULTS

- Prove that you're someone who can deliver results, rather than just execute tasks

## Top 10 questions that can be asked by candidates

Que: Can you please describe the responsibilities of the position?

Que: What are the biggest challenges of this job?

Que: Is this a new position?

Que: Can you please describe the company's management style?

Que: What are the prospects for the growth?

Que: When can I expect to hear from you?

Que: If I want to extend the job offer, how soon would you like me to start?

Que: What is the best part of working for this company?

Que: Is there any possibility for relocation?

Que: How much t

## 1) What is OOP / What are the main advantages?

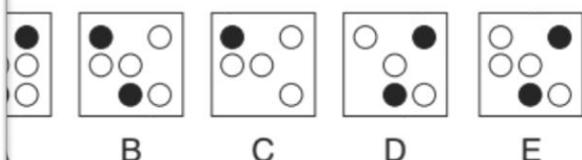
OOPS is abbreviated as Object Oriented Programming system in which programs are considered as a collection of objects. Each object is nothing but an instance of a class.

Object Oriented Programming System is the programming technique to write programs

real world objects. The states and behaviors of an object are represented as variables and methods. In OOPS programming programs are organized around data rather than actions and logic.



lines across and down, if the first two tiles are o produce the third tile, with the exception that r symbols are cancelled out, which of the above rrect, and with which tile should it be replaced?



ty: OOP programming objects model real world objects, so the complexity is reduced and the program structure is clear.

ity: Each object forms a separate entity whose internal workings are hidden from other parts of the system.

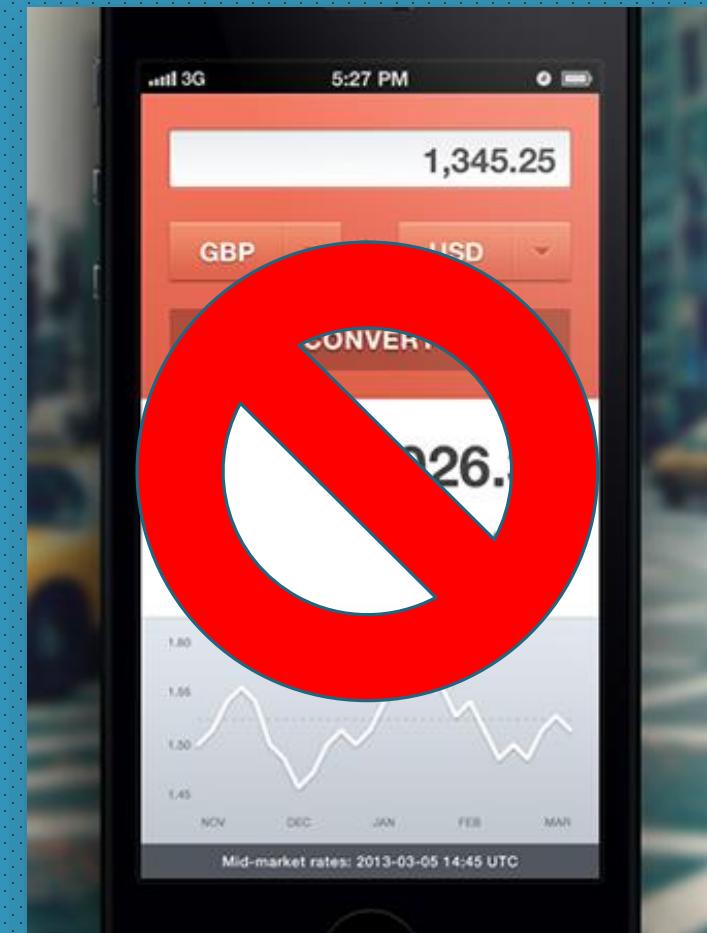
bility: It is easy to make minor changes in the data representation or the structures in an OO program. Changes inside a class do not affect any other part of the program, since the only public interface that the external world has to a class is through the use of methods.

bility: Adding new features or responding to changing operating environments can be solved by introducing a few new objects and modifying some existing ones.

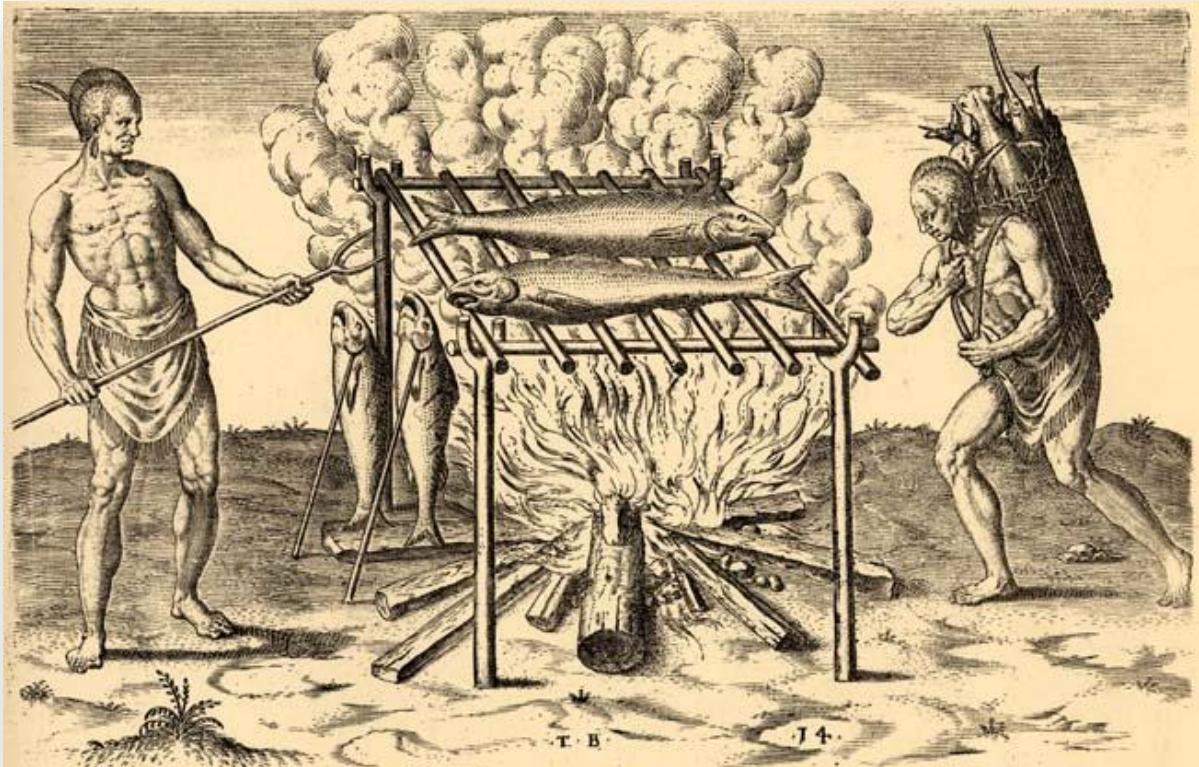
- Maintainability: Objects can be maintained separately, making locating and fixing problems easier.
- Reusability: Objects can be reused in different programs.

## UNFORTUNATELY NO GUI

```
Output X
run:
Type (1) for Exercise1 & (2) for Exercise2 & (0) to exit
1
Enter the number of consumed units:
500
Total Cost for 500.0 units is 15.0 JD
Do you want to calculate the cost of another bill? - yes(1) or - no
```



**NO GUI**



**GUI**



# NO GUI



# GUI

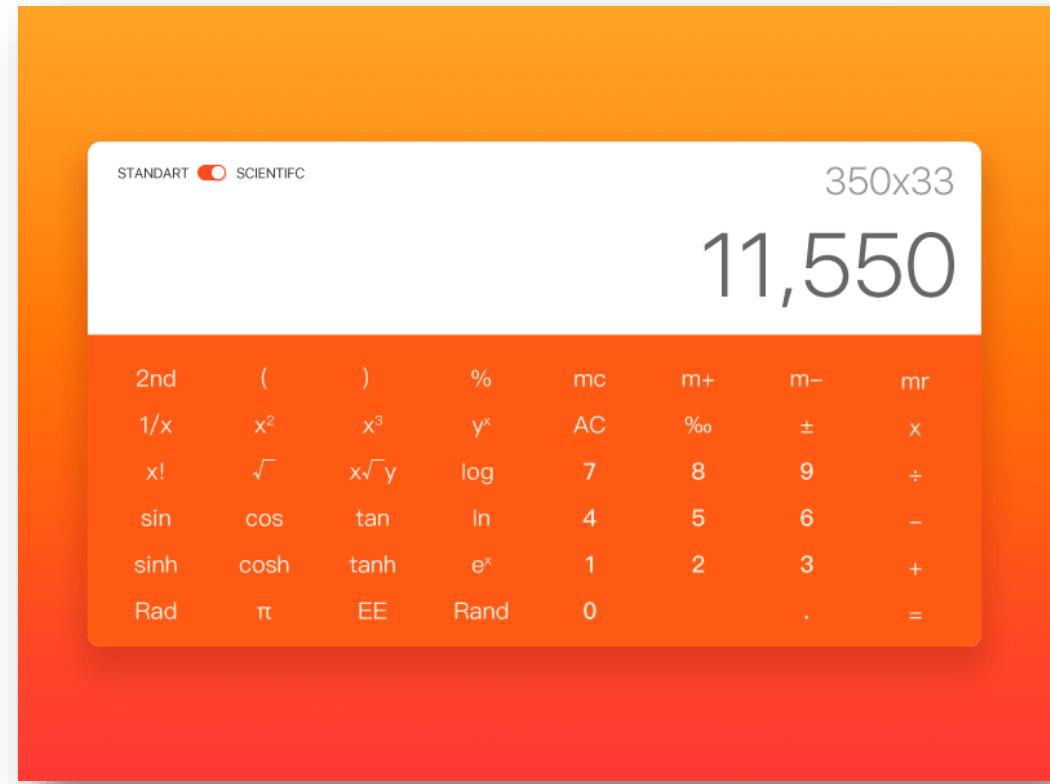


# NO GUI

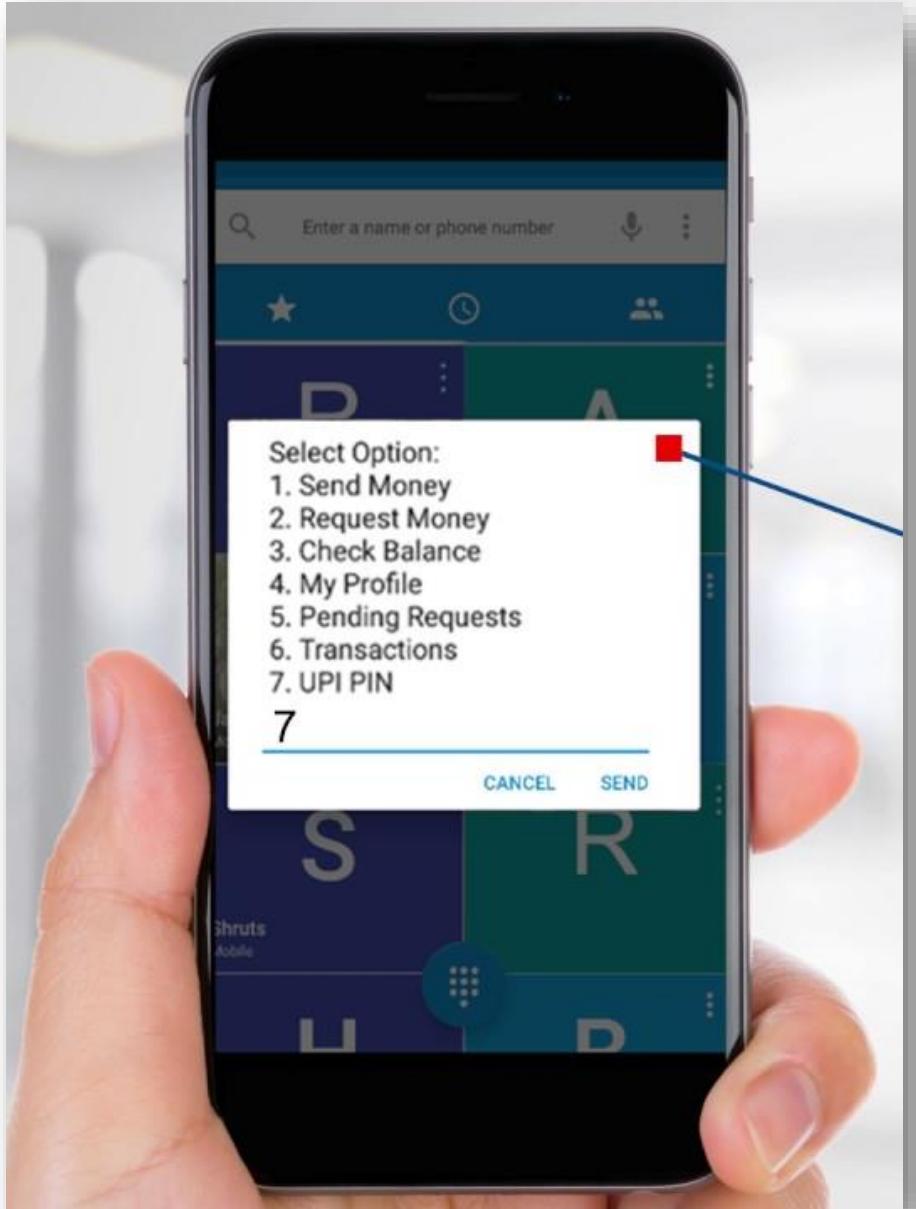


```
-----  
Type a number, and then press Enter  
42  
Type another number, and then press Enter  
119  
choose an option from the following list:  
    a - Add  
    s - Subtract  
    m - Multiply  
    d - Divide  
Your option? d  
Your result: 42 / 119 = 0.3529412  
Press any key to close the Calculator console app...
```

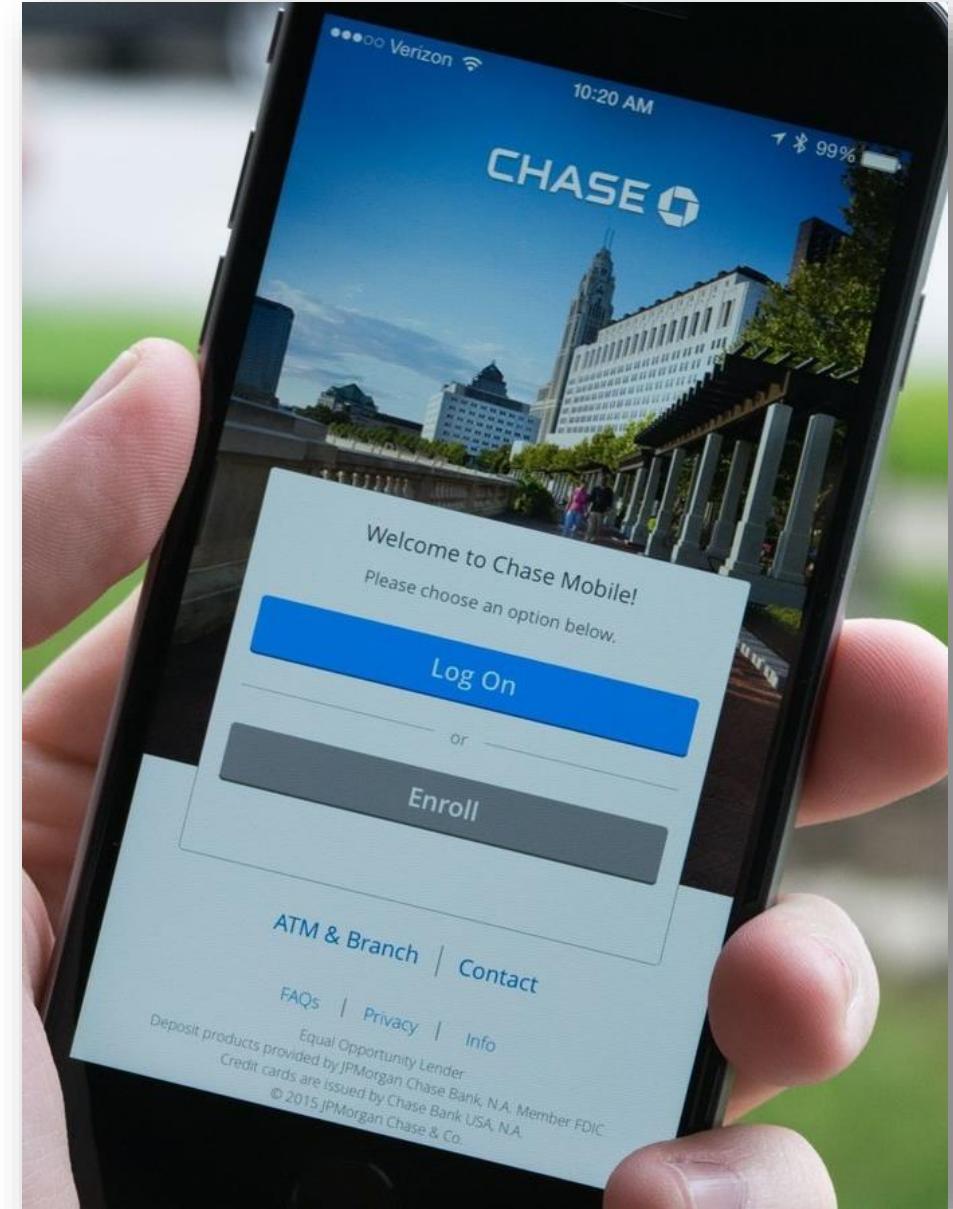
# GUI



# NO GUI



# GUI



**AND MUCH MORE!!!**