CODING IS FUN!

PALLIKA KANANI

A PAINTER CREATES PAINTINGS USING PAINTS

A POTTER CREATES POTTERY USING CLAY

WHAT DO YOU THINK A CODER CREATES?

CODERS CREATE SOFTWARE, APPS, WEBSITES

THEY HELP YOU GET INFORMATION

AND STAY CONNECTED TO YOUR FRIENDS

Social Networks Logos | icons

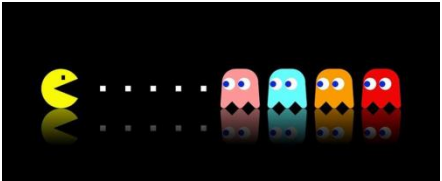FLATICON

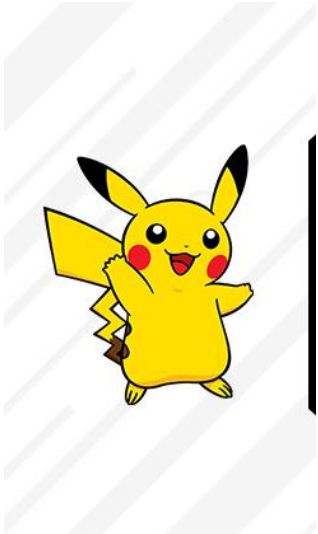# GET YOUR WORK DONE

MAKE LIFE EASIER

THEY HELP YOU RELAX

THEY ALSO HELP CREATE MOVIES

AND GAMES

ALSO, ROBOTS (AND SELF DRIVING CARS)

AIRPLANES, SATELLITES AND SPACE SHIPS

THEY HELP EVERYONE ELSE DO THEIR WORK

Doctors

Engineers

Architects

Accountants

Artists

Scientists

Businessmen

OUR ENTIRE WORLD IS COMPUTERIZED

AND IT ALL WORKS WITH CODE

THAT SOUNDS MAGICAL!

How can you create sooooo many things using just code?

REMEMBER PAINTING?

PAINTING

- You can choose to create any thing you want using paints

- Tools: pencil, paints, brush, paper

- Basics: draw lines and shapes, fill color

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CODING IS SORT OF LIKE PAINTING

PAINTING

- You can choose to create any thing you want using paints

- Tools: pencil, paints, brush, paper

- Basics: draw lines and shapes, fill color

CODING

- You can choose to create anything you want using code

- Tools: computer, internet, code

- Basics: We'll talk about this soon

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IN FACT, CODING IS LIKE ANY ART

- It's fantastic to MAKE IT YOURSELF
- You can learn the basics from someone (like parents or teachers), but YOU can CREATE anything that YOU want to CREATE
- You are only limited by your IMAGINATION and CREATIVITY
- The more you PRACTICE, the BETTER you get
- It's great to do it with your FRIENDS
- IT'S FUN!

OK, BUT WHAT IS CODE?

AND HOW DOES IT WORK?

WHAT IS CODING (OR PROGRAMMING)?

Coding is a way to make the computer do what YOU want it to do

WHAT IS CODING (OR PROGRAMMING)?

- Now, computers are actually quite dumb

- They only understand simple commands, but they are very good at following them

<Dumb>

WHAT IS CODING (OR PROGRAMMING)?

- So, you need to EXPLAIN to the computer what to do and how to do it

WHAT IS CODING (OR PROGRAMMING)?

- Usually, that means breaking down the TASK into a series of simple commands that the computer can understand.

WHAT IS CODING (OR PROGRAMMING)?

- This series of commands is "CODE" or "PROGRAM"

- The computer then goes and tries to EXECUTE all of these commands one by one

```
for i in people.data.users:
    response = client.api.statuses.user_timeline.get(screen_name=i.scre
    print 'Got', len(response.data), 'tweets from', i.screen_name
    if len(response.data) != 0:
        ltdate = response.data[0]['created_at']
        ltdate2 = datetime.strptime(ltdate,'%a %b %d %H:%M:%S +0000 %Y'
        today = datetime.now()
        howlong = (today-ltdate2).days
        if howlong < daywindow:
            print i.screen_name, 'has tweeted in the past' , daywindow,
            totaltweets += len(response.data)
            for j in response.data:
                if j.entities.urls:
                    for k in j.entities.urls:
                        newurl = k['expanded_url']
                        urlset.add((newurl, j.user.screen_name))
        else:
            print i.screen_name, 'has not tweeted in the past', daywind
```

WHAT IS CODING (OR PROGRAMMING)?

- If your code is correct, the computer can complete the Task

- If it's incorrect, the computer gets confused

WHAT IS CODING (OR PROGRAMMING)?

- Figuring out how to give CLEAR and CORRECT commands to the computer to complete a task is like solving a puzzle

- This is why all coding is basically solving puzzles

LET'S TRY THIS OURSELVES
Code.org

HOUR OF CODE

Other worlds!

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CREATING YOUR OWN WORLDS

Characters

Birds and pigs

Angry Bird

Red

Naughty Pig

This is the world they created. In this world, you could control Red to move forward, left, right, etc.

Similarly, you can create YOUR OWN WORLD with YOUR characters and PARENTS and FRIENDS and other cartoon characters that YOU like.

ALREADY KNOW SOME BASICS?

Let's do some more fun exercises*

- Name Picker
- Color Game

*Code Courtesy:
usingpython.com/programs/

MORE EXCITING STUFF IN FUTURE WEBINARS

We'll try and create an ANDROID app that lets you swipe pictures in a gallery

Learn about the amazing world of Artificial Intelligence

Learn about different fields in computer science

Learn about building Robots!

WHAT DO YOU WANT TO CREATE?

LANGUAGE DOESN'T MATTER

- They are all designed with slightly different goals

- Just like human languages, you can say the same things to a computer in different languages

- It's like crayons, water color, or oil paint. They are all nice in their own way.

DON'T BE SCARED OF THE JARGON

- Lots of new technology created all the time

- Remember, they are all just TOOLS.

- What you CREATE with them is more important.

- Some day, you could make your own language too!

DON'T STOP AT LEARNING JUST THE SYNTAX

- You can learn the grammar of a language, but doesn't mean you can write poetry

- The important thing is to IMAGINE what you can CREATE with the syntax

- Python, JavaScript, Java are good places to start

WHAT YOU WILL NEED?

- Start with a tablet, but soon, you will need a computer/laptop with internet connection

- Sometimes, you will need to download software

- Check with your parents if it's ok

- Reach out to an older sibling, cousin, aunt, or uncle if you have more questions

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HOW CAN I LEARN MORE?

ONLINE LEARNING RESOURCES

- Code.org
- Scratch, Scratch Jr.
- LEGO MineCraft
- Alice

- CodeAcademy
- Khan Academy
- CodeWars
- GitHub

- YouTube
- Google!

- Coursera
- EdX
- Udacity

MORE RESOURCES

Penjee.com

LearnPython.org

Usingpython.com

Inventwithpython.com

Developer.android.com

Androidauthority.com

CSPathshala.org:

CSpathshala is an Association for Computing Machinery India (ACM India) initiative to bring a modern computing curriculum to Indian schools.

SO, LET'S MAKE SOME RULES

CODING IS FUN!!!

RULES FOR PARENTS
(Pretty much the only parenting advice here)

- Keep an eye on what they do online

- It's not fun if it's forced, work or on an exam

- Do it with them

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RULES FOR KIDS

- Learn the basics
- Try MAKING something
- Practice
- Do it with friends

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HAVE FUN!