

Computer Science Principles

Unit 3: Algorithms and Programming



LECTURE 8: HACKATHON AND CREATE TASK

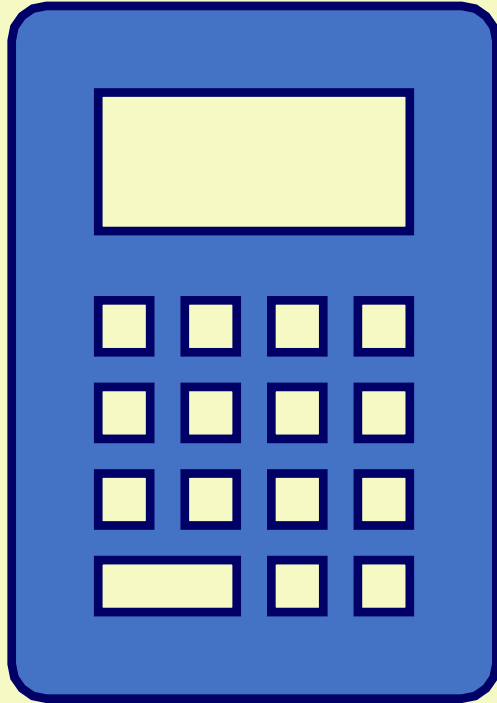
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IEEE SENIOR MEMBER



Objective:

- Hackathon and Create Task Activity on Code.org



Hackathon

SECTION 1 – [CODE.ORG] UNIT 5

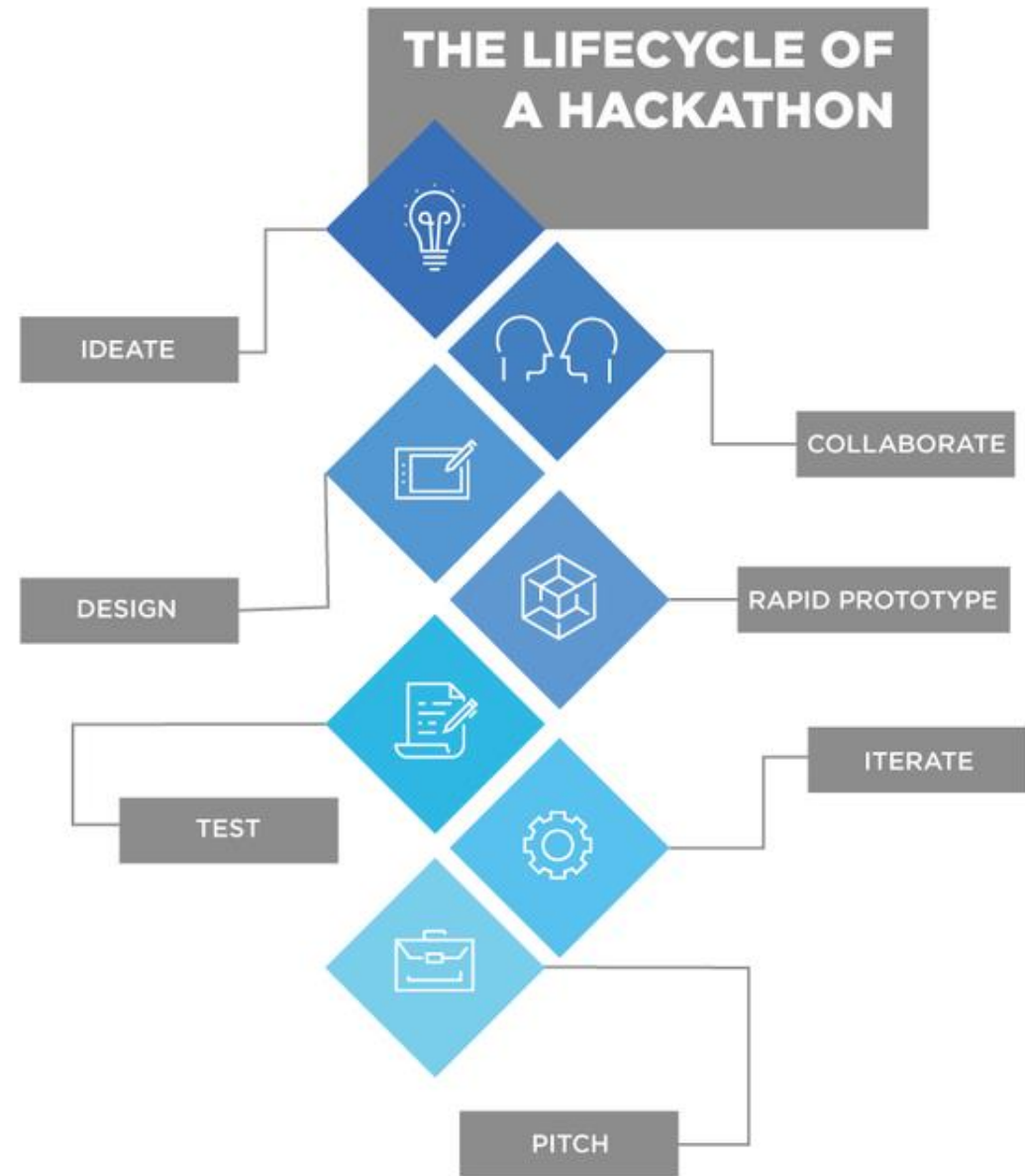


What is a hackathon?

- Hackathon is a tool to drive sustained innovation and crowdsource solutions to address pressing real-life business problems and social issues.
- A hackathon is typically a time-bound competitive event where participants collaborate to build proofs of concept and minimum viable products for a specific pre-defined problem or to innovate.

What is a hackathon?

- Hackathons are events in which community members collaborate to solve problems.





Why should you conduct a hackathon?

- Hackathons have some clear advantages over traditional innovation management processes. They are inclusive, agile, promote multidisciplinary collaboration, and have shorter innovation cycles that are better suited to addressing fast-changing consumer demands.
- Along with generating new ideas and future proofing a business, hackathons help de-risk product development, improve employee engagement and retention, find excellent talent, enable customer focused innovation and engagement, accelerate the speed of innovation and problem solving, enhance collaboration between teams, bring about cost savings through R&D, and build community, brand, and leadership.

Process of Innovation

IDEATION

Idea collection & idea graduation

Bottoms-up ideation on strategic goals

Can be crowdsourced internally & externally

EXECUTION

Test the PoC for feasibility, market viability & scale

Undertaken by the innovation wing, Emerging business division, Incubators & R&D



DISCOVERY

Identify the strategic focus area

Insight comes from the top management

Translated into themes of innovation & problem statement



POC CREATION

Conceptualize ideas

Check for novelty, functionality, feasibility alignment to strategic goals

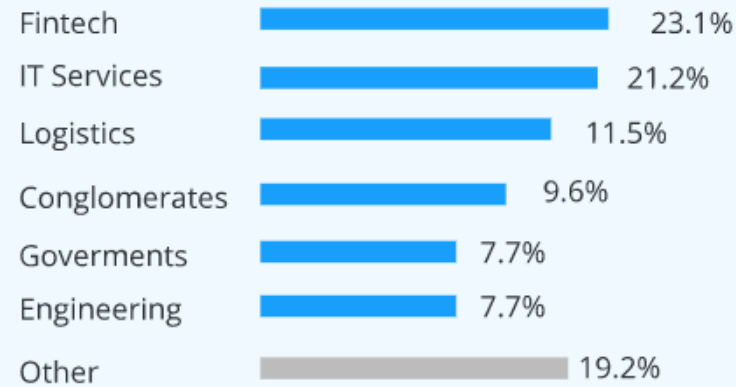


Role of hackathon in the innovation process

Process of Innovation

HACKATHONS BY SECTORS

In 2017, hackathons were a top innovation channel for fintech. Last year also saw more govts crowdsourcing solutions than ever before



TOP 5 TECHNOLOGIES



Machine Learning

11.5%



Internet of things

11.5%



Artificial Intelligence

9.6%



Augmented Reality

7.7%



Bots

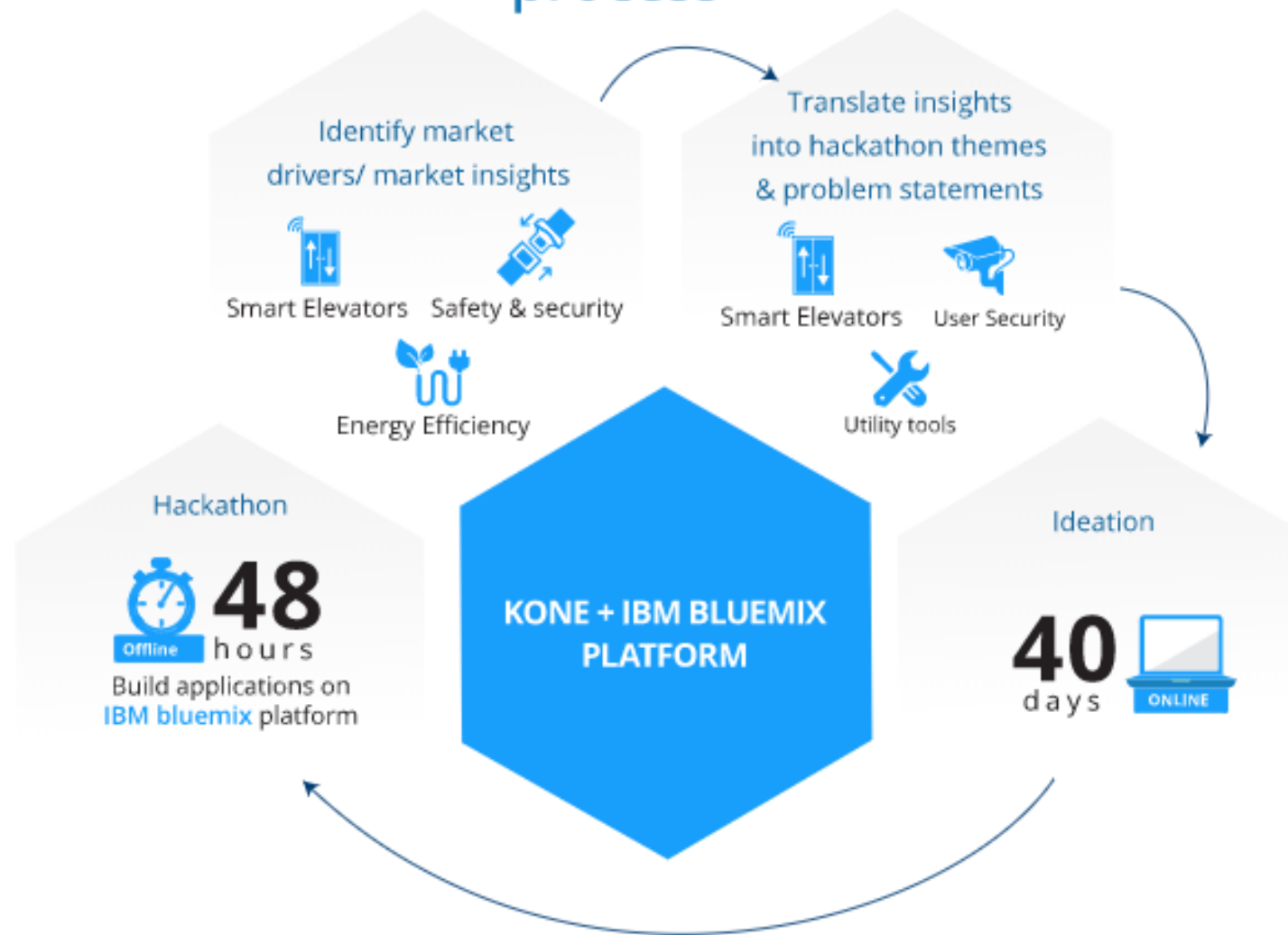
5.7%

What are the benefits of internal hackathons?



- **Establish a process of creative ideation:** The only way you can be consistently innovative is when the pace at which you are generating creative ideas and testing prototypes is higher than the pace at which your external factors are changing.
- **Rapid prototyping:** More experiments allow you to test out a large set of hypotheses and conducting not-so-perfect experiments also means that the cost of failure is low while giving you many insights. Internal hackathons are the perfect environment for rapidly prototype and test validity and feasibility before full implementation.
- **Jump start product roadmap:** Hackathons help to quickly check the feasibility of some of the ideas that can be taken up in the immediate roadmap. The dedicated time that one gets during the hackathon along with the competitive spirit and adrenaline rush can accelerate product development.
- **Come up with a future roadmap list:** Even though all ideas generated at a hackathon don't get implemented, they can become a good reference list for future road-map discussions.
- **Promote cross-functional collaboration across engineering and non-engineering teams:** This can facilitate collaboration between different teams but also give engineering teams a better perspective on the customer and make the non-engineering teams more vested in the product.

Open Innovation process



What are the benefits of external hackathons?



- Exploring new technologies
- Driving business innovation
- Sourcing incubation programs
- Creating potential startups
- Branding of products or an organization
- Creating solutions for social causes
- Analyzing data to make predictions
- Rewarding innovative thinking



How do you choose to engage?

- In this type of hackathons, a company engages people within and outside the organization.
- The invites are often influenced by the themes and goals that are set.
- According to Gartner, “CIOs can use external hackathons to change culture, improve customer experience, find new revenue opportunities, reduce costs, engage new ecosystems, and improve talent management.”



Onsite Hackathon



Online Hackathon



Hybrid/ 2-Phase Hackathon

Sample Timeline

It can be hard to know what to schedule into your hackathon, so here's a guide:

▼ Key times ▼ Team-related ▼ Host-related

The first day is all about laying the groundwork for a successful event; get everyone excited and on the same page.

Friday
6:00 PM — Registration and snacks
7:00 PM — Opening remarks
7:30 PM — Defining the problem
8:00 PM — Ideas pitch
9:00 PM — Form teams
12:00 AM — Building closes

The second day is full of activity. Keep everyone on track with planned check-ins, breaks, and inspiring speakers.

Saturday
8:00 AM — Doors open
8:30 AM — Breakfast
10:00 AM — Team check-in
12:00 PM — Lunch
12:30 PM — Speaker 1
5:00 PM — Dinner
6:00 PM — Mentor Feedback
7:00 PM — Speaker 2
12:00 AM — Building closes

The third (and often final) day of a hackathon can fly by! Make sure everyone is aware of final presentation times, and be sure to announce the solutions at the end of the event.

Sunday
8:00 AM — Doors open
8:30 AM — Breakfast
10:00 AM — Team check-in
11:00 AM — Lunch
3:00 PM — Presentations due
4:00 PM — Dinner
6:00 PM — Presentations start
7:30 PM — Winners announced
8:00 PM — Event ends

Source: Booz Allen Hamilton

Most Popular Gifts



Gift Certificate



Tablet



Smart Watch



Go Pro



Amazon Echo



Gaming consoles



Drones



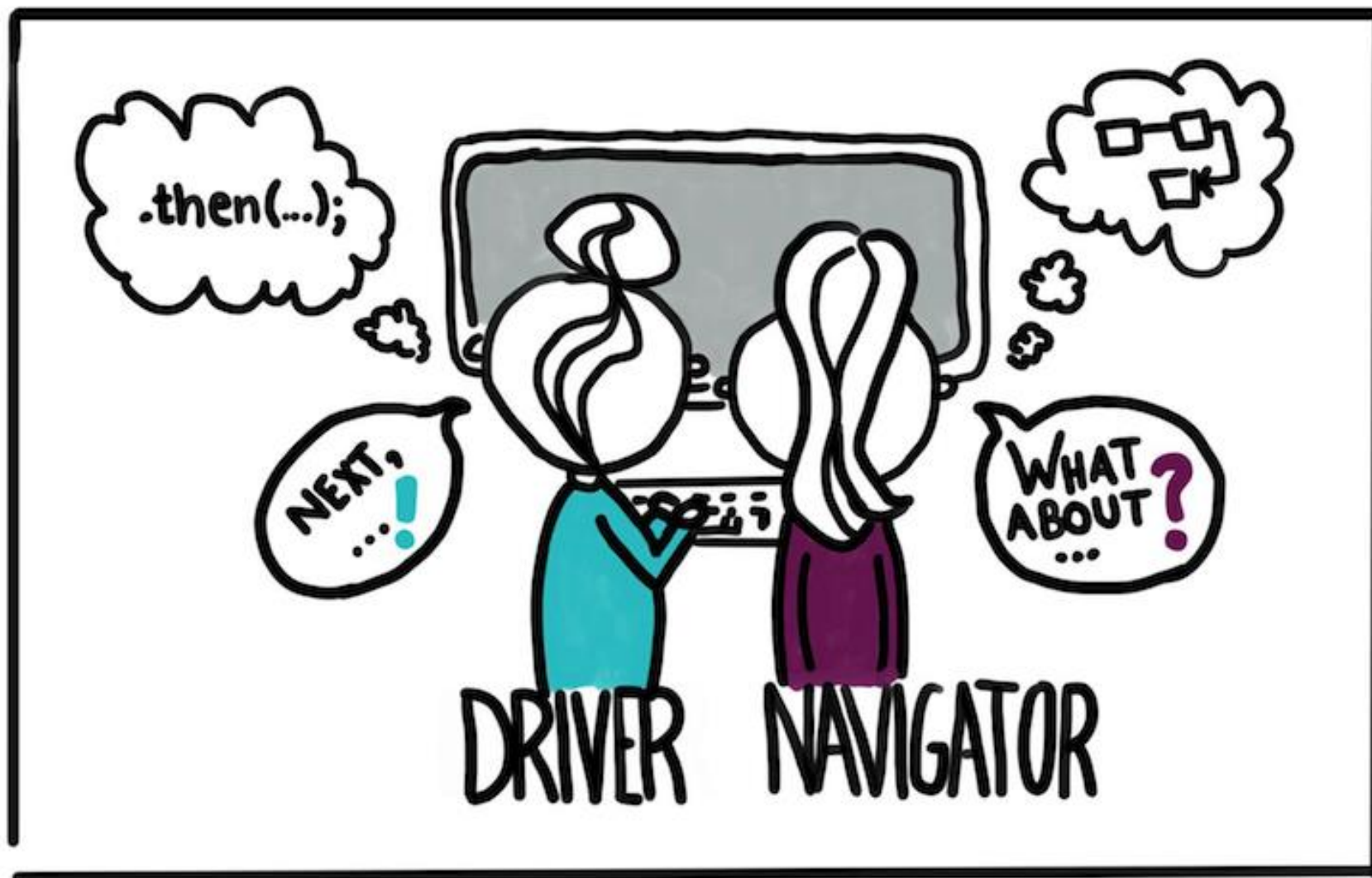
Portable hard drives



Apple MacBook



Paid Holidays





5 ROLES NEEDED ON EVERY HACKATHON TEAM



UX/UI DESIGNER



PROJECT MANAGER



DOMAIN EXPERT



BACKEND DEVELOPER

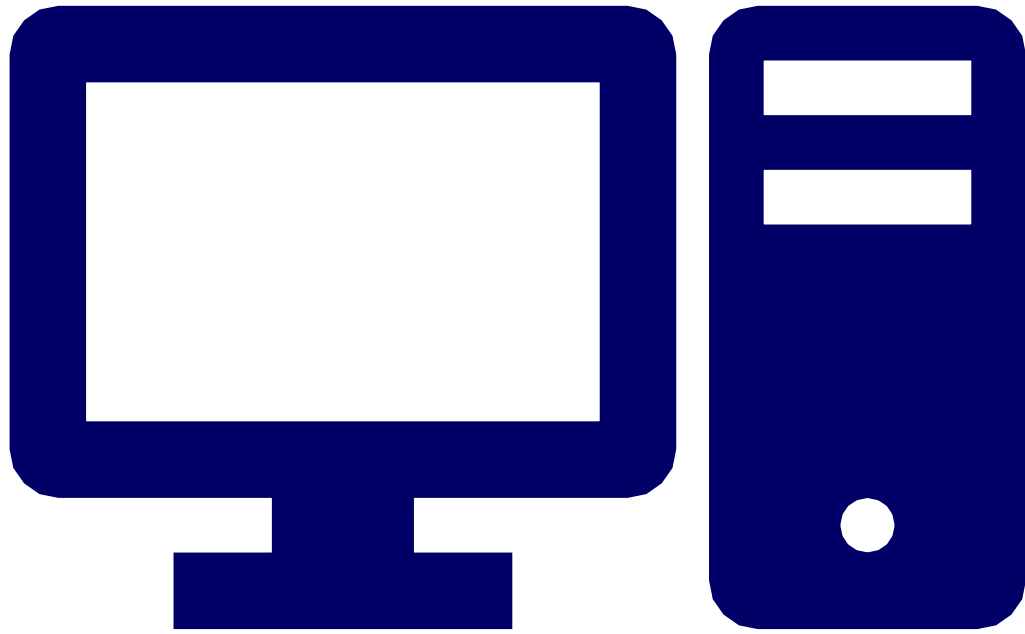


FRONTEND DEVELOPER

COLLABORATION

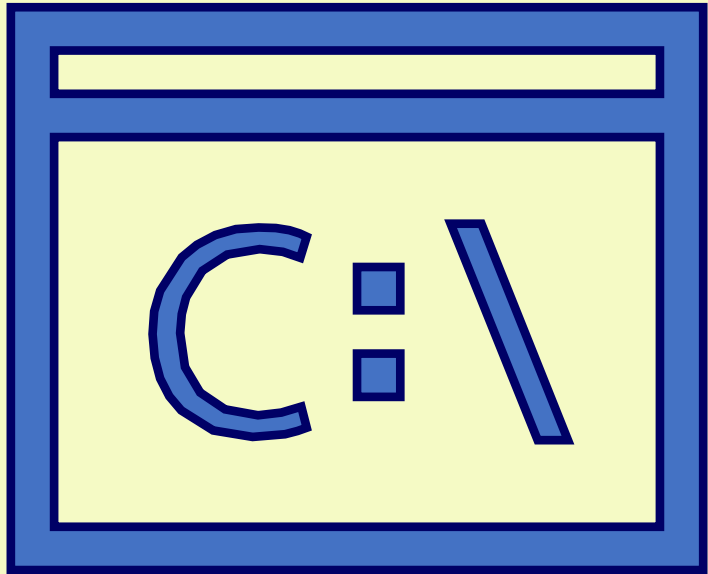


Collaboration



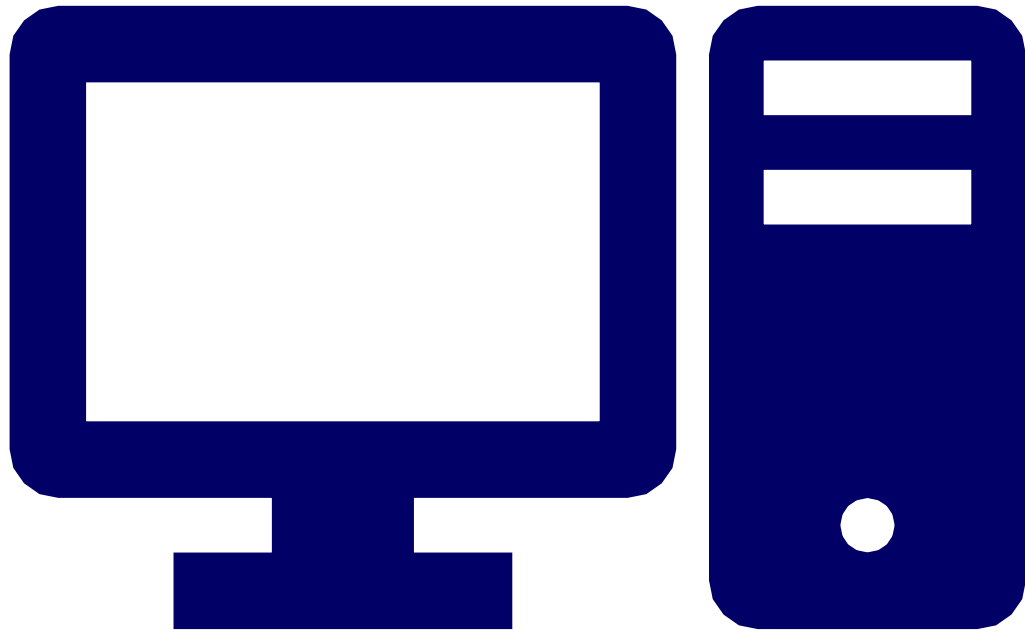
Hackathon

LESSON 13-17 [CODE.ORG]



Create Task

SECTION 2 – UNIT 8 [CODE.ORG]



Create Task

LESSON 1-3 [CODE.ORG]