

A grayscale photograph of a person wearing large headphones, looking intently at a laptop screen. The person's hands are resting on their chin, suggesting deep concentration or thought. The background is blurred, showing what appears to be a desk or office environment. The overall tone is professional and focused.

GETTING STARTED WITH COMPUTER PROGRAMMING

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Module Outcomes

**How to program a
computer?**

**Different ways of
Computer Programming**

**Visual Programming
Language**

**Decision Making in
Computers**

**Customized Computer
Programs**

How to program a computer?

There are mainly 5 steps involved:

- Defining the problem
- Planning the solution
- Coding the program
- Testing the program
- Documenting the program





Coding the program

- express your solution in a programming language.
- translate the logic from the flowchart or pseudocode to a programming language.
- many programming languages exist with different syntax.
- program needs to be keyed into the computer.

Different ways of Computer Programming

Levels of Programming Languages

High-level program

```
class Triangle {  
    ...  
    float surface()  
        return b*h/2;  
}
```

Low-level program

```
LOAD r1,b  
LOAD r2,h  
MUL r1,r2  
DIV r1,#2  
RET
```

Executable Machine code

```
0001001001000101  
0010010011101100  
10101101001...
```



High level language

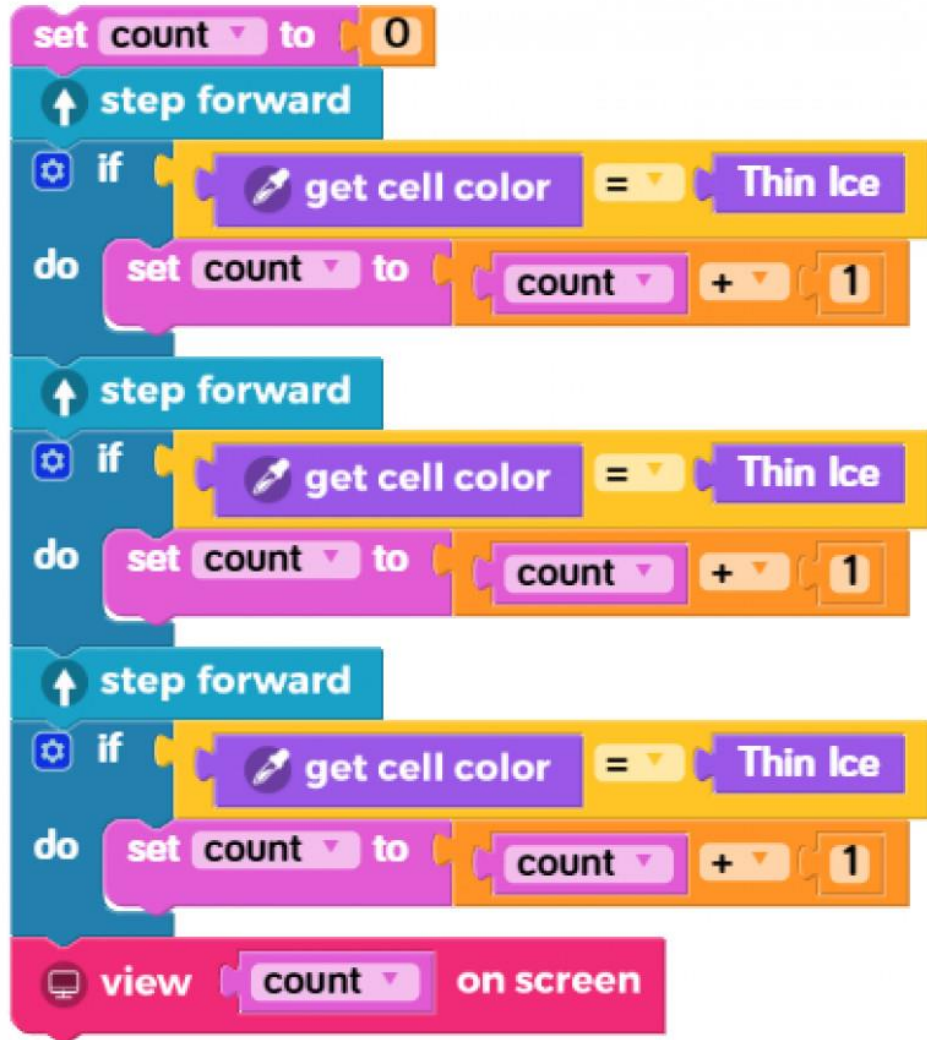


Low Level language



Visual programming language

Visual Programming Language



- lets humans describe processes using illustration.
- it uses blocks and arrows to direct the flow of the program you want to execute.
- flowcharts can represent conditions that have different outcomes and loops that reuse the same recurring contents.
- built to make programming easy and accessible for everyone.



SCRATCH

Projects

- Projects are animations, stories, art, pen, and games — and just about everything else made in Scratch.
- The Scratch project editor is used to make Scratch projects,
- Projects can be shared to the world using the Scratch Community.
- In other terms, a project is the created coding in Scratch.

The Interface

- The Scratch interface is divided into two sections: the project running environment and the project development.
- In the top-right of Scratch is the Stage.
- The stage is where a Scratch project is physically run.
- By default, the Scratch Cat is on the stage.
- Characters are programmed to perform what a Scratcher desires them to do.
- The flexibility of Scratch allows the creator to be imaginative and actually make the desired project.
- That is when programming comes into place, as it "makes things do what they should".

Programming



THANK YOU!