ALGORITHM

WELCOME

TERM 2

MOD WEP

11 WEEKS

11 WEEKS

MA JUN JUL

AUG SEP OCT
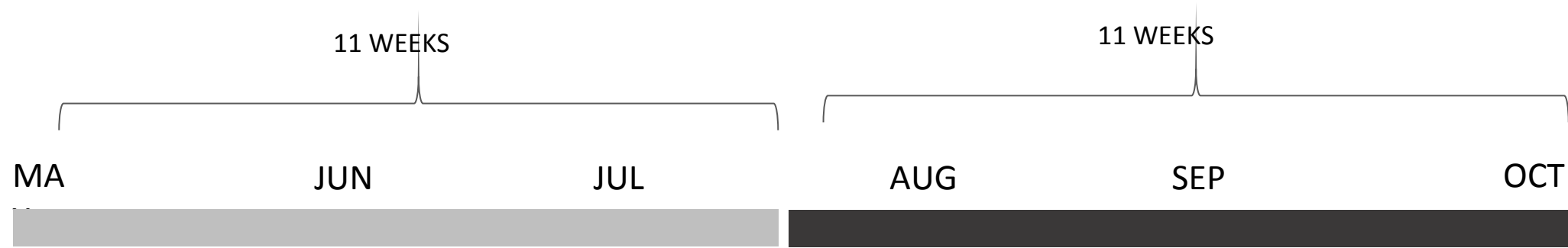
ALGO-1 - 66 H   6 H / WEEK – 11 W

ALGO-2 - 72 H   12H / WEEK – 6 W

loops
condition

Variables

Boolean
String
Indexes
Errors

Arrays
dictionary
functions

Hackathon

Create
video game

DON'T ASK	THINK ON	WORK
ANSWER	PAPER	HARD
TO YOUR FRIENDS	FIRST	

FIND BY YOURSELF

DON'T GIVE UP

EVALUATION

QUIZES   30 %

EXAMS

    MIDTERM   20 %

    FINAL   40 %

PARTICIPATION   10 %

1 QUIZ every 2 weeks

What is
an algorithm ?

An **algorithm** is a **list of steps** to accomplish an **objective**
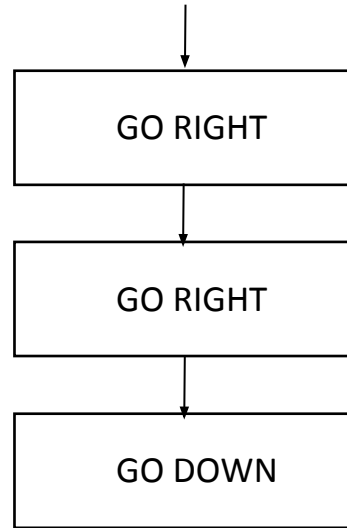
Objective

Go to PNC

Steps

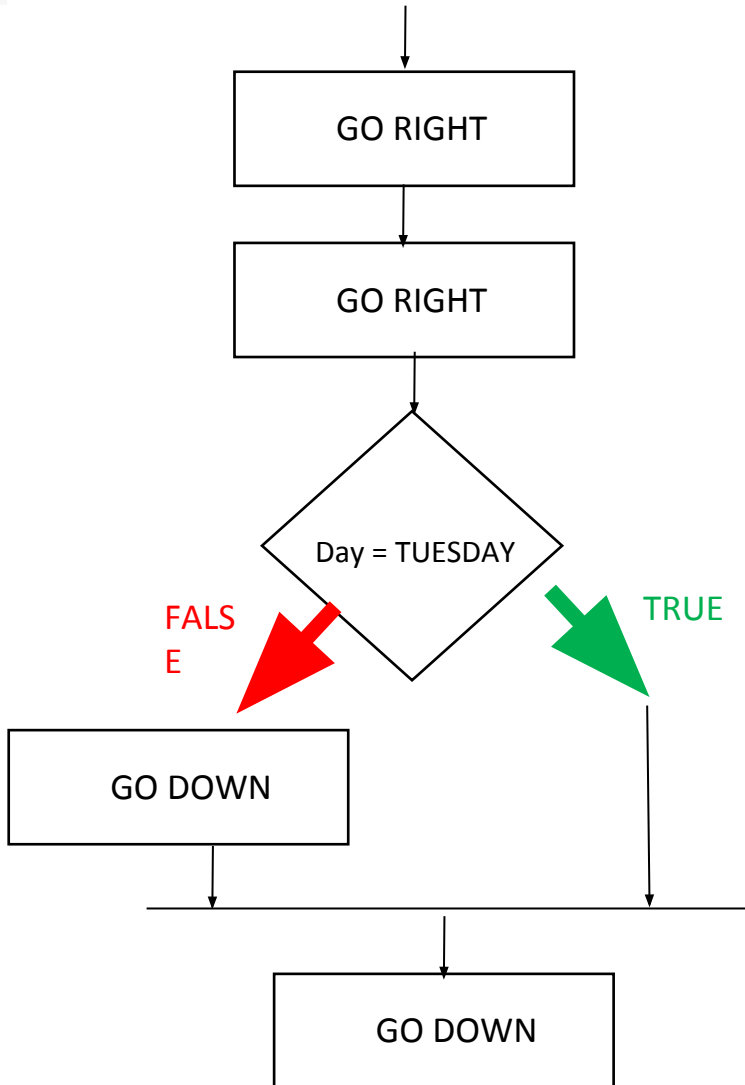Wake up

↓

Take shower

↓

Take bike

↓

Say good morniiiing

where will be the robot at the end of the program ?

GO RIGHT

GO RIGHT

GO DOWN

	A	B	C	D	E
1	🤖				
2					
3					
4					

It is Monday, where will be the robot at the end of the program ?

GO RIGHT

PICK UP

GO RIGHT

GO UP

GO UP

PICK UP
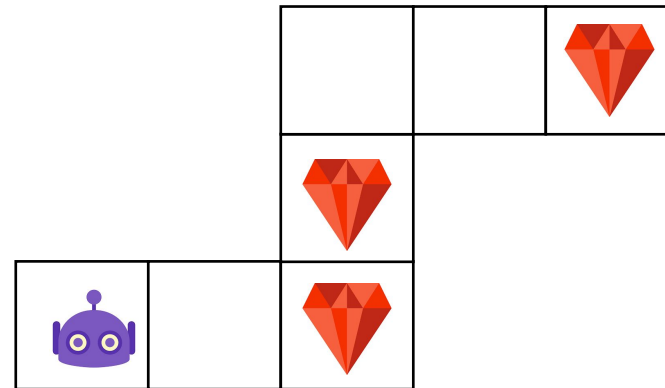
#1

11
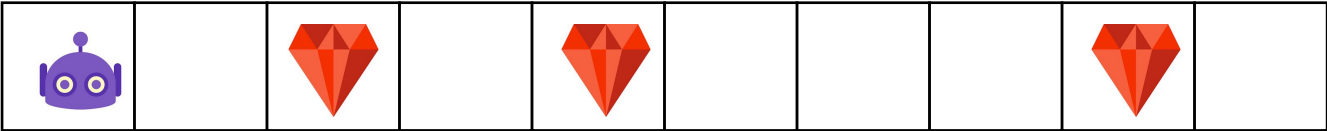
GO RIGHT   PICK UP
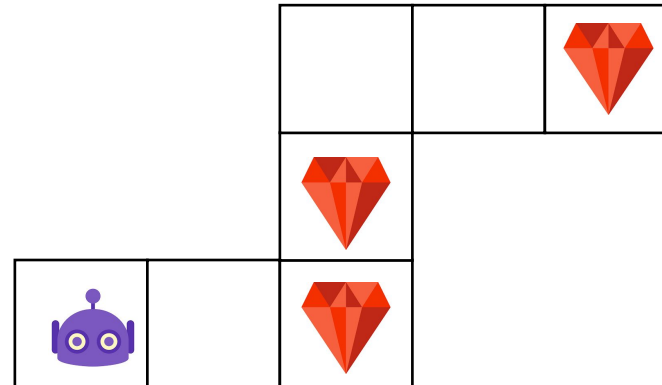
Robot must pick up all diamonds

#2

11

GO RIGHT   PICK UP

GO UP

Robot must pick up all diamonds

What is
a loop ?

A loop

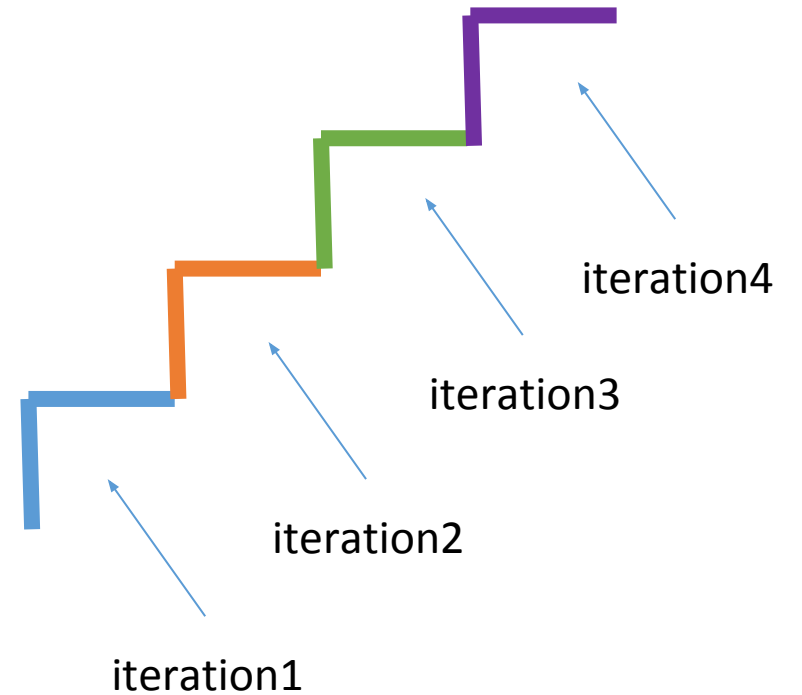A **loop** is type of instruction

A **loop** contains a list of instructions that **repeat** until a specified condition is reached

Each execution of the loop is an <u>iteration</u>

REPEAT 4
  GO UP
  GO RIGHT

=

GO UP
GO RIGHT

GO UP
GO RIGHT

GO UP
GO RIGHT

GO UP
GO RIGHT

iteration4

iteration3

iteration2

iteration1

A loop can contain other loops

REPEAT 3

CLAP YOUR HANDS

SAY "BANANA"

REPEAT 2

JUMP

What does this program do ?

A loop can contain other loops

REPEAT 3

    CLAP YOUR HANDS

    SAY "BANANA"

    REPEAT 2

        JUMP

=

CLAP YOUR HANDS

SAY "BANANA"

JUMP

JUMP

CLAP YOUR HANDS

SAY "BANANA"

JUMP

JUMP

CLAP YOUR HANDS

SAY "BANANA"

JUMP

JUMP

CHALLENGE MAX BLOC BLOCS
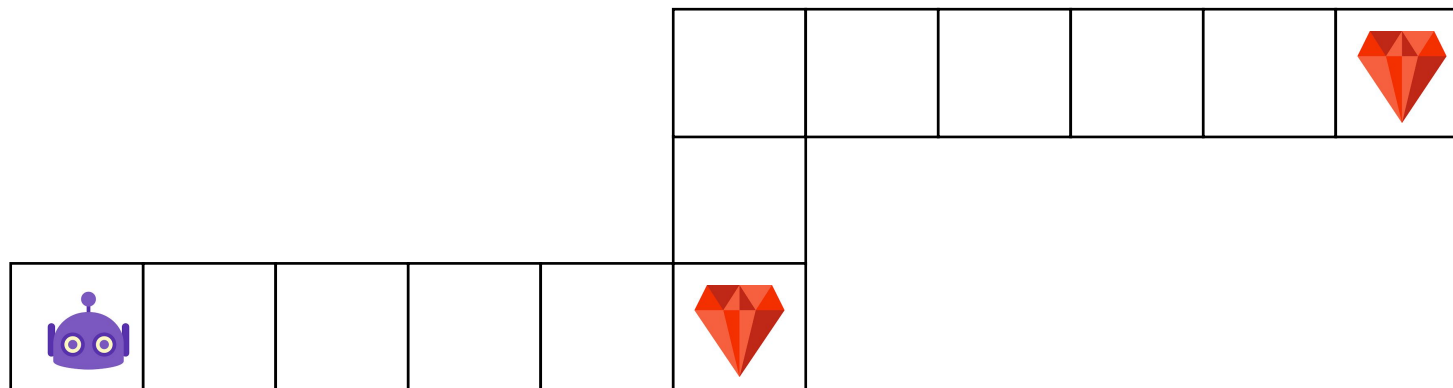
#3 **10**

| GO RIGHT | PICK UP | REPEAT< *N time* > |

| GO UP |

CHALLENGE

MAX BLOC

BLOCS

#4

10

GO RIGHT   PICK UP   REPEAT< *N time* >

GO UP

CHALLENGE MAX BLOC BLOCS

#5   06

GO RIGHT   PICK UP   REPEAT< *N time* >

GO UP

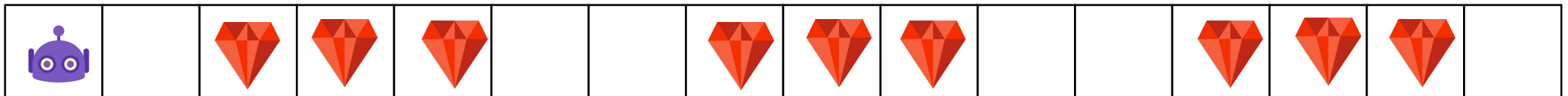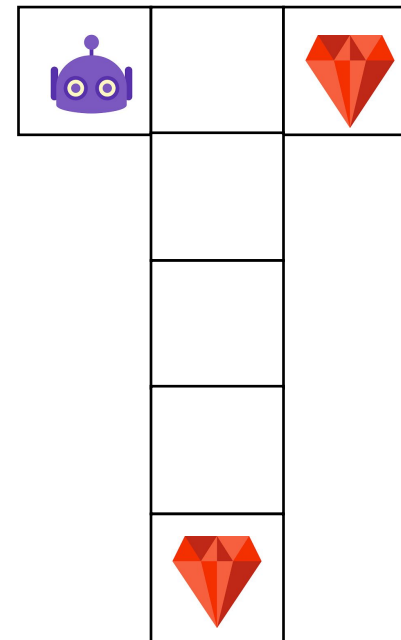CHALLENGE   MAX BLOC   BLOCS

#6   08

| GO RIGHT | PICK UP | REPEAT< *N time* > |

| GO UP |

| GO DOWN |

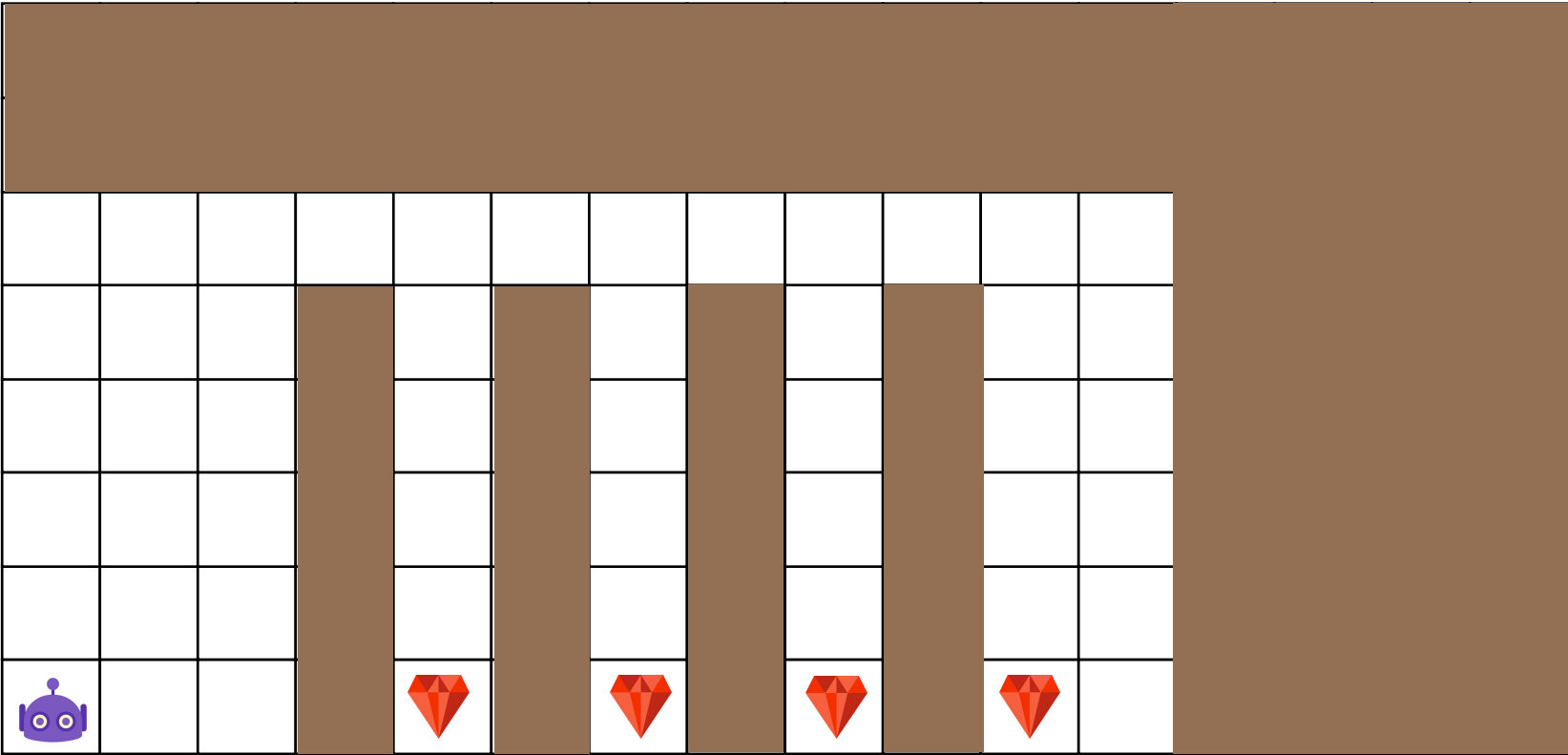CHALLENGE **MAX BLOC** BLOCS

#6 **10**

GO RIGHT   PICK UP   REPEAT< *N time* >

GO UP

GO DOWN

CHALLENGE

MAX BLOC

BLOCS

#7

10

GO RIGHT   PICK UP   REPEAT< *N time* >
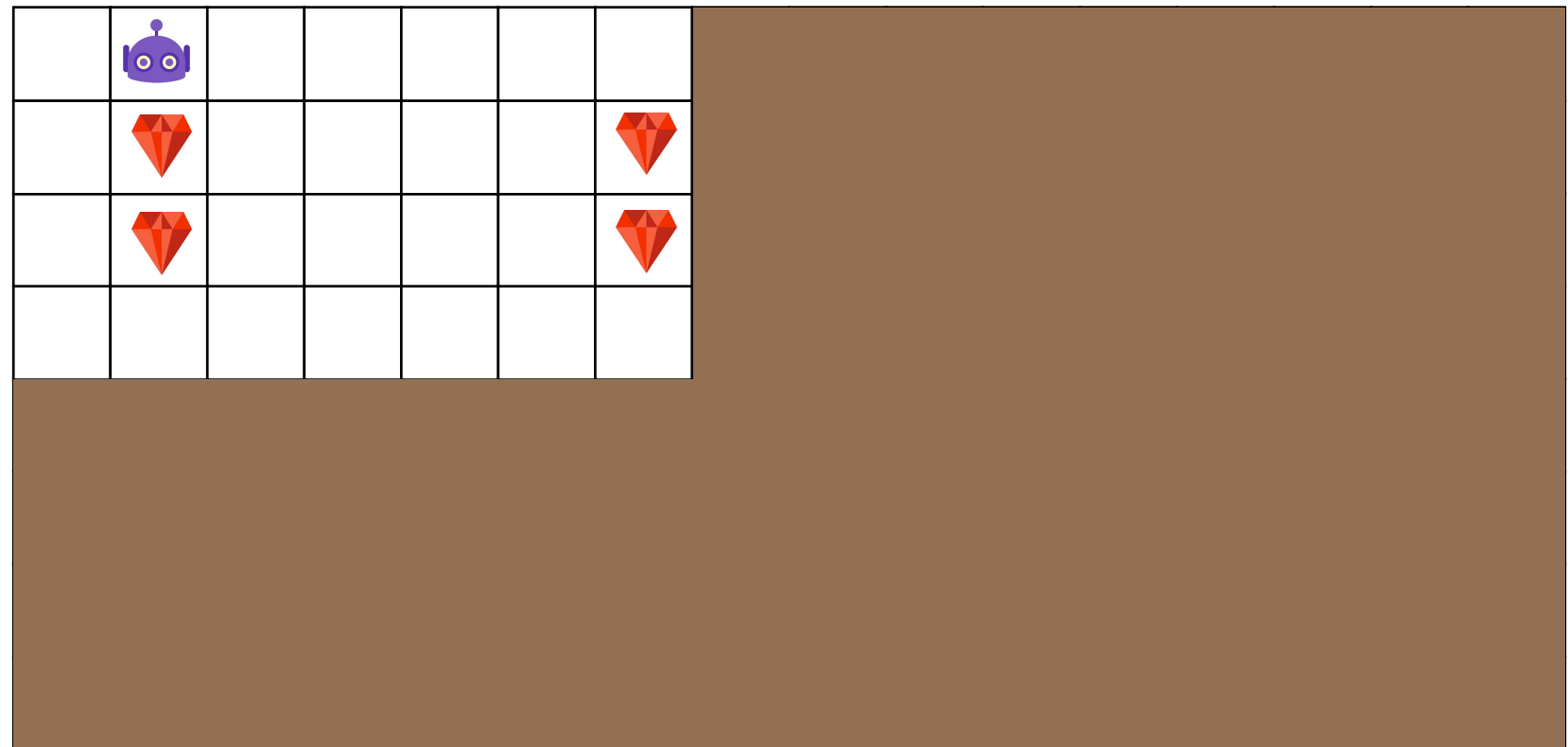
GO UP

GO DOWN

CHALLENGE

BLOCS

#8

10

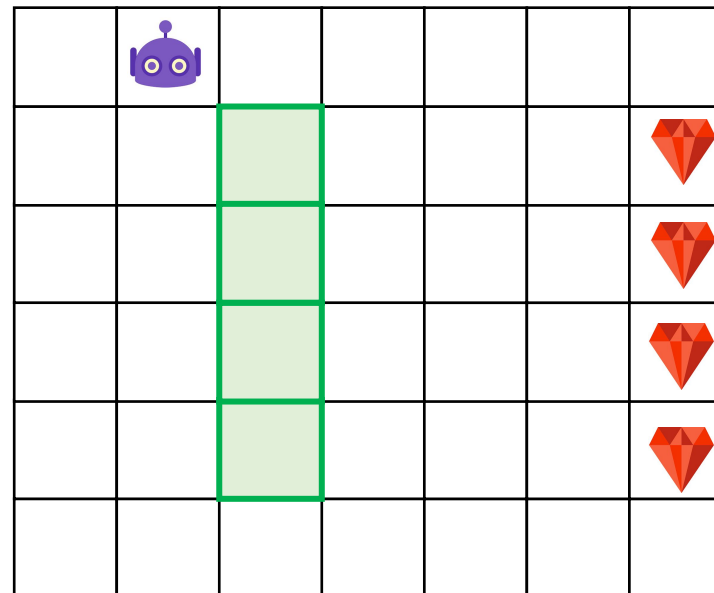| GO RIGHT | PICK UP | REPEAT< *N time* > |
| GO UP | DROP | |
| GO DOWN | GO LEFT | |

DROP ALL DIAMONDS TO THE GREEN CELLS

CHALLENGE

MAX BLOC

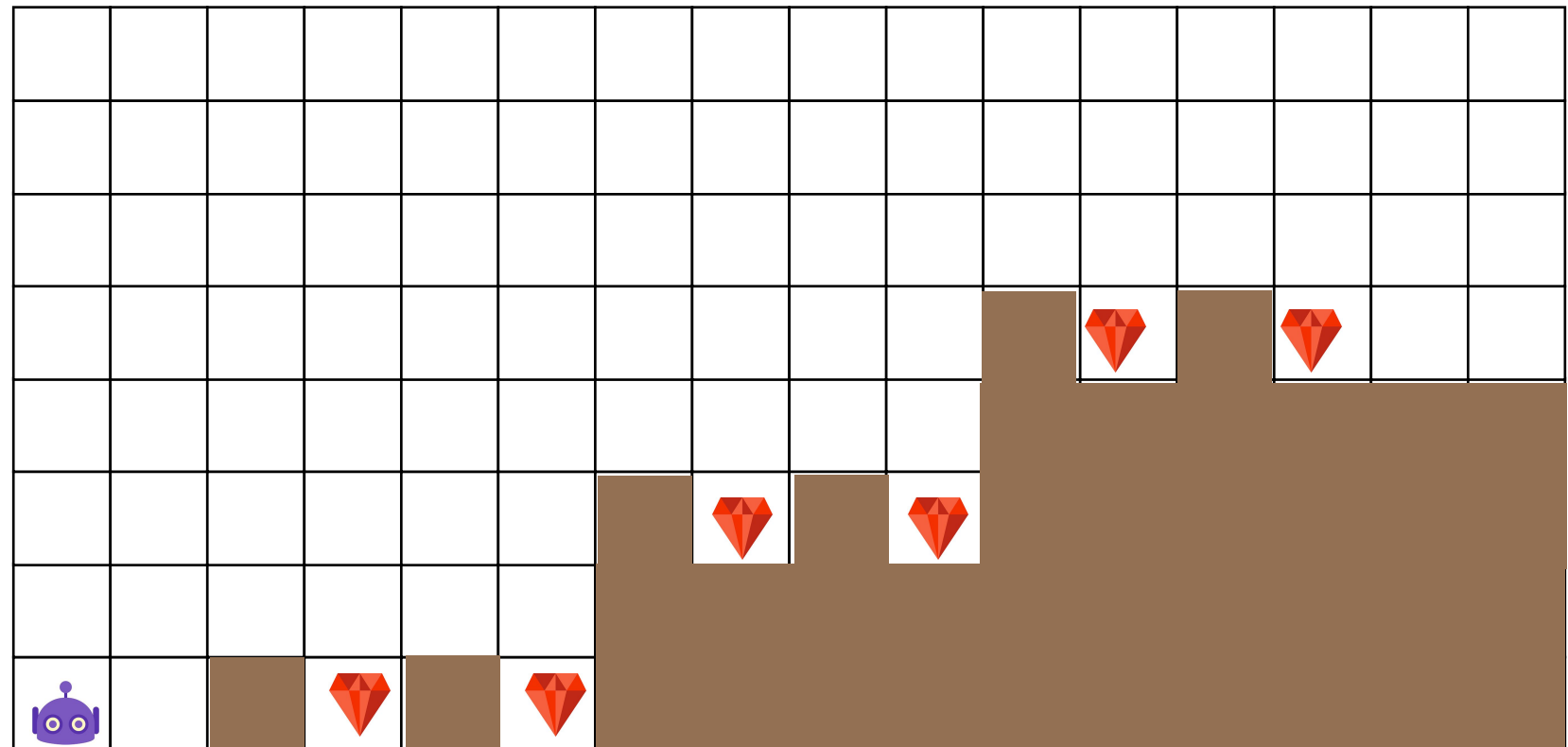BLOCS

#9

10

GO RIGHT

PICK UP

REPEAT< *N time* >

GO UP

GO DOWN

INDIV

After class

1. Review this lesson.

2. Finish all challenges

3. Submit your work to **Google Classroom**