

11:13 AM Tue 3 Aug

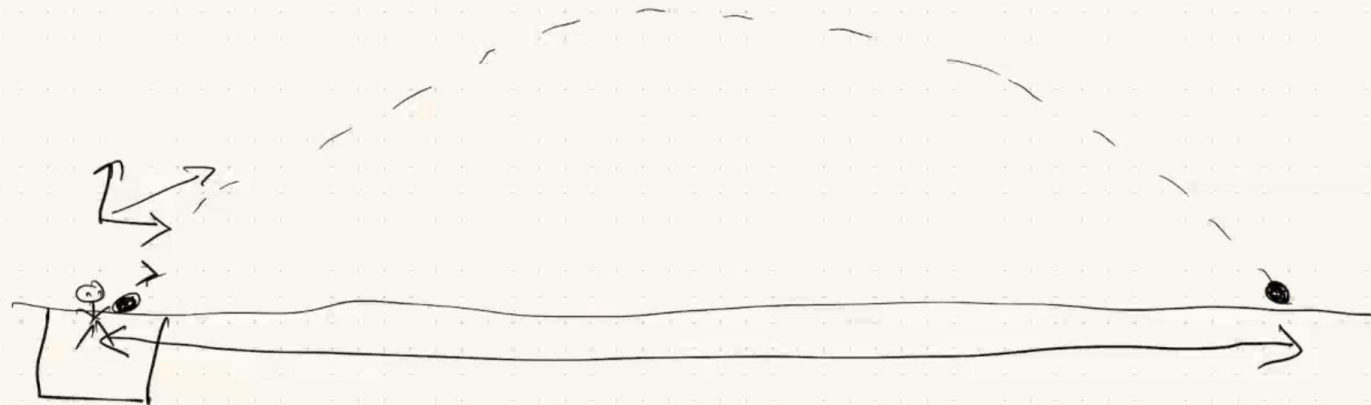
02 Model Of Computation

008 example

Projectile Motion

- Ball is a particle
- No air resistance
- Constant gravity
- Land is a straight line
- 2 dimensional motion
- Only Earth is putting gravitational force

Fairly accurate result
Easy model for analysis



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02 Model Of Computation

203 course administration

syllabus

02 Model Of Computation

008 example

Relational Model

	Att 1	Att 2	...	Att k
D1				
D2				
...				
Dn				

 $n = 1000$ $k = 7$

Images

Videos

Geospatial data

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02 Model Of Computation

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02 Model Of Computation

008 example

Random Access Machine

- No memory hierarchy
- Only single instruction at a time
- All instructions require same time

Why to use

- ① Ease of analysis
- ② No significant

Algo 1 is faster than Algo 2 of RAM

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03 Algorithm Representation

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02 Model Of Computation

008 example

03 Algorithm Representation

Algorithm representation

- Communicate algo correctly
- Ease of understand
- Coding without ambiguity

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008 example

03 Algorithm Representation

Algorithm name

Variable names

Group of variables

Element of a group

Variable/Element property

Value assignment
Arithmetic operation
Equality check

Conditional constructs
Looping construct

Returning results

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03 Algorithm Representation

x 203 course administration

x syllabus

x 02 Model Of Computation

x 008 example

x 03 Algorithm Representation

Algorithm name: FindMax

Variable name: min, prev

Variable group: A, Student

Element of a group: $A[5]$ $A[\text{index}]$

Variable/Element/Group property:

$A.\text{length}$ $\text{node}.\text{parent}$ $\text{Student}[2].\text{name}$



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03 Algorithm Representation

x 203 course administration

x syllabus

x 02 Model Of Computation

x 008 example

x 03 Algorithm Representation

Conditional constructs:

if

if else

if else if

switch

if (condition) {

TRUE block

} else {

FALSE block

}

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03 Algorithm Representation

x 203 course administration

x syllabus

x 02 Model Of Computation

x 008 example

x 03 Algorithm Representation

Conditional constructs:

if

if else

if else if

switch

```
if (condition) {
```

TRUE block

```
} else if (condition) {
```

FALSE block

```
}
```

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03 Algorithm Representation



x 203 course administration x syllabus x 02 Model Of Computation x 008 example x 03 Algorithm Representation



Looping Constructs:

while →
do while →
for →

do {
 LOOPING block
} while (condition)

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03 Algorithm Representation

x 203 course administration

x syllabus

x 02 Model Of Computation

x 008 example

x 03 Algorithm Representation

Looping Constructs:

while →
do while →
for →

Initialization Book keeping operation
for(↓ , condition, ↓) {
 LOOPING block
}

Returning value:

return →

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