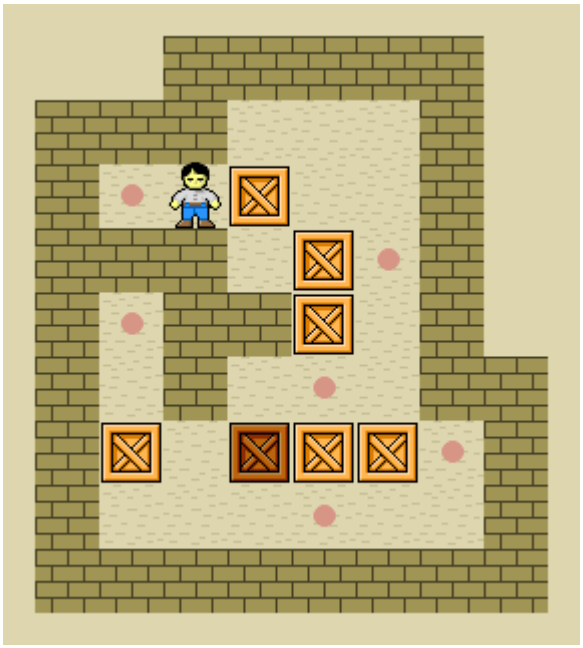
# Contents Workshop 2

## Midterm Exam Range

Date: October 23(Wed), 2019, 09:00 am

### 1) Understand Sokoban rules and code.

Link: https://github.com/GP101/Programming/blob/master/CProgramming/ConsoleApplication%20-%20sokoban%20codebase.cpp



### 2) Read Chapter 1 and 2 of text book.

1. Introduction → Big O Notation
2. Linked List

## 3) Memorize the Elementary Function Table.

- Elementary Number
- Elementary Function
- Euler Equation
- Integration of Power Function
- Get Position from Acceleration

* Elementary Number

$0, 1, i, e, \pi$

* Elementary Function

| Function Type | Differentiation | Inverse | Differentiation |
|---|---|---|---|
| Power: $x^2,\ x^n$ | $2x^1, nx^{n-1}$ | Root: $\sqrt{x}$ | $\frac{1}{2\sqrt{x}}$ |
| Exponential: $e^x$ | $e^x$ | Log: $\ln x$ | $\frac{1}{x}$ |
| Trigonometric: $\cos(x), \sin(x)$ | $-\sin(x), \cos(x)$ | Inverse Trigonometric: $acos(x), asin(x)$ | ... |

* Euler Equation

$$e^{i\theta} = \cos(\theta) + i\sin(\theta)$$

$$e^{i\pi} = \cos(\pi) + i\sin(\pi)$$

$$e^{i\pi} + 1 = 0$$

* Integration of Power Function

$$\int x^n dx = \frac{1}{n+1} x^{n+1} + C$$

* Acceleration

$$v' = v_0 + at$$

$$s' = s_0 + v_0 t + \frac{1}{2} a t^2$$

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