# アルゴリズム 探索

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| 年 組 | 番 | 名前 | / / |

## 1. 数当てゲームをやってみよう

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| 1回め  出題者: 正解：  回答者用   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 回目 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | 答え |  |  |  |  |  |  |  |  |  |  | | 結果 |  |  |  |  |  |  |  |  |  |  | | ヒント |  |  |  |  |  |  |  |  |  |  | |

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| 2回め  出題者: 正解：  回答者用   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 回目 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | 答え |  |  |  |  |  |  |  |  |  |  | | 結果 |  |  |  |  |  |  |  |  |  |  | | ヒント |  |  |  |  |  |  |  |  |  |  | |

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| 3回め  出題者: 正解：  回答者用   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 回目 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | 答え |  |  |  |  |  |  |  |  |  |  | | 結果 |  |  |  |  |  |  |  |  |  |  | | ヒント |  |  |  |  |  |  |  |  |  |  | |

## 2. 考えてみよう(1)

(1)最短で何回で当たるだろうか？

(2)最長で何回かかるだろうか？

(3)必勝法（必ず最短で当たる）はあるだろうか？

## 3. 考えてみよう(2) 5回以内に必ず当てる

手順を整理してみよう。

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| ① |
| ② |
| ③ |
| ④ |
| ⑤ |
| ⑥ |
| ⑦ |
| ⑧ |
| ⑨ |
| ⑩ |

## 4. （オプション問題）二分探索の検証

正解の値を「８」以外の値に適当に決めて、二分探索の方法がうまくいくか調べてみよう。

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| 正解：  回答者用   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 回目 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | 答え |  |  |  |  |  |  |  |  |  |  | | 結果 |  |  |  |  |  |  |  |  |  |  | | ヒント |  |  |  |  |  |  |  |  |  |  | |

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| ① |
| ② |
| ③ |
| ④ |
| ⑤ |
| ⑥ |

## 5. 探索問題とアルゴリズムについて、次の文章の空欄にあてはまる語句を、下の選択肢から選んでください。

ひとかたまりのデータの中から、目的のデータを探す問題を探索問題という。探索問題を解くことができる様々なアルゴリズムがある。

その一つが、（ ① ）である。データの先頭から順に、目的のデータと比較しながら探していく。考え方がシンプルで分かりやすいが、探すデータの数が（ ② ）と、( ③ )が増えていく。

他のアルゴリズムとして、（ ④ ）がある。探索するデータの集まりの（ ⑤ ）から探していく。探すごとに、探す範囲を半分にしながら探していくので、探索するデータの集まりの数が（ ② ）場合でも、( ③ )は増えにくい。ただし、（ ④ ）で探索するには、あらかじめデータが整列されていなければならない。

<選択肢>

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| (ア)二分探索 (イ)線形探索 (ウ)増える (エ)減る (オ)最初 (カ)真ん中 (キ)最後  (ク)統計量 (ケ)計算量 |