Elements of Coding
Linear Algebra

The Nucleus of Artificial Intelligence

$$\therefore f_n(k, p) = \begin{cases} 1 & \text{if } k \equiv 0 \text{ and } p \equiv 0 \\ \sum_{\delta=1}^{k} \{f_{n-1}(k-1, p-\delta)\} & \text{otherwise} \end{cases}$$

A Hackers' Perspective

π^{∞}

```
1:  function perfectkriya(α)
2:      f[0..α] ← {∞}
3:      f[0] ← 0
4:      for β ∈ [1, α] do
5:          for γ ∈ [1, √β] do
6:              f[β] ← min(f[β], f[β − γ²] + 1)
7:          end for
8:      end for
9:      return f[α]
10: end function
```

```
int firstkriya(int beta, int alpha)
{
    // max no of Kriyas with beta Pranayams
    int n = std::min(beta, alpha);
    std::vector<int> f(n, 0);
    f[0] = 1;
    for(int p = 1; p <= beta; p++)
    {
        int prev = 0, cur = 0;
        for(int k = 0; k < n; k++)
        {
            cur = f[k];
            f[k] += prev + (k+1 < n ? f[k+1] : 0);
            prev = cur;
        }
    }
    return f[0];
}
```

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