$$f(x) = x^2 - 2x - 5$$

Golden Section Search

| Step | X _L | x ₂ | X ₁ | x _u | f(x _I) | f(x ₂) | f(x ₁) | f(x _u) | E _{max} |
|------|----------------|-----------------------|-----------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|------------------|
| 1 | 0 | | | 3 | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

$$d = (\phi - 1)(X_U - X_L)$$
 $\phi = \frac{1 + \sqrt{5}}{2}$

$$X_2 = X_U - d$$
 $X_1 = X_L + d$