**Practical No. 04**

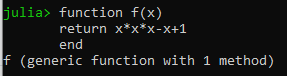
**Aim : Implement Quadratic Fit Search.**

**Step 1:** First Define Function

function f(x)

return x \* x - x + 1

end



**Step 2:** Quadratic Fit Algorithm

function quadratic\_fit\_search(f, a, b, c, n)

ya, yb, yc = f(a), f(b), f(c)

for i in 1:n-3

print(a,"\n",b,"\n",c,"\n")

x = 0.5\*(ya\*(b^2-c^2)+yb\*(c^2-a^2)+yc\*(a^2-b^2)) /(ya\*(b-c) +yb\*(c-a) +yc\*(a-b))

yx = f(x)

if x > b

if yx > yb

c, yc = x, yx

else

a, ya, b, yb = b, yb, x, yx

end

else if x < b

if yx > yb

a, ya = x, yx

else

c, yc, b, yb = b, yb, x, yx

end

end

end

return (a, b, c)

end

**Step 3:** For Output, Call the function.

quadratic\_fit\_search(f, 1, 3, 4, 6)

**Output :**

