**4th order R-K method:**

def f(x,y):

return(1\*x+y\*\*2)

x0=float(input("Enter initial value for x:"))

y0=float(input("Enter initial value for y:"))

xn=float(input("Enter final value for x:"))

h=float(input("Enter value step of size:"))

n=(xn-x0)/h

n=int(n)

x=x0

y=y0

for i in range(1,n+1):

k1=h\*f(x,y)

k2=h\*f((x+h/2),(y+k1/2))

k3=h\*f((x+h/2),(y+k2/2))

k4=h\*f((x+h),(y+k3))

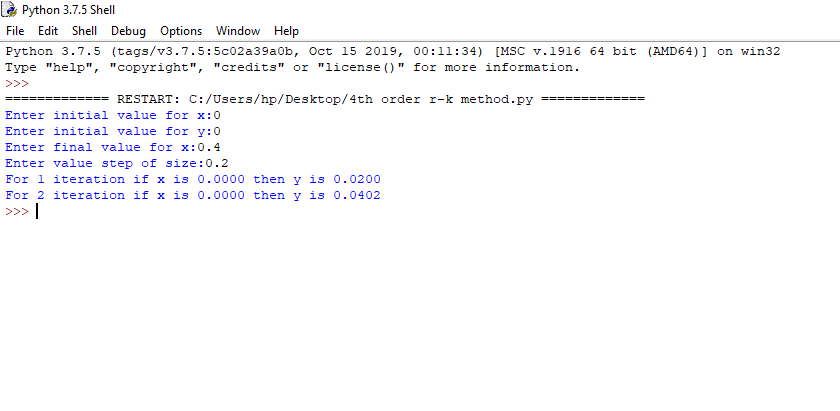
k=(k1+2\*k2+2\*k3+k4)/6

y=y+k

x+x+h

print("For %d iteration if x is %0.4f then y is %0.4f"%(i,x,y))

**output:**

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