x	y	z
1	2	13
2	3	18
3	4	23

Let us assume $z = ax + by + c$ is the target equation

SSR = $\{13 - (a + 2b + c)\}^2 + \{18 - (2a + 3b + c)\}^2 + \{23 - (3a + 4b + c)\}^2$

$\frac{dSSR}{da} = 2.\{13 - (a + 2b + c)\}.(-1) + 2.\{18 - (2a + 3b + c)\}.(-2) + 2.\{23 - (3a + 4b + c)\}.(-3)$

$\frac{dSSR}{db} = 2.\{13 - (a + 2b + c)\}.(-2) + 2.\{18 - (2a + 3b + c)\}.(-3) + 2.\{23 - (3a + 4b + c)\}.(-4)$

$\frac{dSSR}{dc} = 2.\{13 - (a + 2b + c)\}.(-1) + 2\{18 - (2a + 3b + c)\}.(-1) + 2.\{23 - (3a + 4b + c)\}.(-1)$

Let a = 1, b = 1 and c = 1

$\frac{dSSR}{da} = -2.1.\{13 - (1 + 2.1 + 1)\} - 2.2.\{18 - (2.1 + 3.1 + 1)\} - 2.3.\{23 - (3.1 + 4.1 + 1)\} =$ -156

$\frac{dSSR}{db} = -2.2.\{13 - (1 + 2.1 + 1)\} - 2.3.\{18 - (2.1 + 3.1 + 1)\} - 2.4.\{23 - (3.1 + 4.1 + 1)\} = -228$

$\frac{dSSR}{dc} = -2\{13 - (1 + 2.1 + 1)\} - 2\{18 - (2.1 + 3.1 + 1)\} - 2\{23 - (3.1 + 4.1 + 1)\} = -72$

New $a = a - \alpha.\frac{dSSR}{da}$ $b = b - \alpha.\frac{dSSR}{db}$ $c = c - \alpha.\frac{dSSR}{dc}$

$$a = 1 - 0.001(-156) = 1.16$$

$$b = 1 - 0.001(-228) = 1.23$$

$$c = 1 - 0.001(-72) = 1.072$$

$$\frac{dSSR}{da} = -2.1.\{13 - (a + 2b + c)\} - 2.2.\{18 - (2a + 3b + c)\} - 2.3.\{23 - (3a + 4b + c)\}$$

$$\frac{dSSR}{db} = -2.2.\{13 - (a + 2b + c)\} - 2.3.\{18 - (2a + 3b + c)\} - 2.4.\{23 - (3a + 4b + c)\}$$

$$\frac{dSSR}{dc} = -2\{13 - (a + 2b + c)\} - 2\{18 - (2a + 3b + c)\} - 2\{23 - (3a + 4b + c)\}$$

a = 1.16 b = 1.23 c = 1.07

$$\frac{dSSR}{da} = -2.1.\{13 - (1.16 + 2(1.23) + 1.07)\} - 2.2.\{18 - (2(1.16) + 3(1.23) + 1.07)\} - 2.3.\{23 - (3(1$$

$$\frac{dSSR}{db} = -2.2.\{13 - (1.16 + 2(1.23) + 1.07)\} - 2.3.\{18 - (2(1.16) + 3(1.23) + 1.07)\} - 2.4.\{23 - (3(1$$

$$\frac{dSSR}{dc} = -2\{13 - (1.16 + 2(1.23) + 1.07)\} - 2\{18 - (2(1.16) + 3(1.23) + 1.07)\} - 2\{23 - (3(1.16) + 4($$

New $a = 1.16 - 0.001(-141.48) = 1.3$ $b = 1.23 - 0.001(-207) = 1.44$

$$c = 1.07 - 0.001(-65.52) = 1.136$$