Assignment 1

3 4 b d 3 4 3 4 9 b

∩
3>• • b4 >
∩
b>
3 4 ——
b b>

∩
3 ∫ b>4 b9 —— 3 ∫ b>4 b
b> b>

∩
3 4 9 b

Assignment 2

From the information given, it follows that the case is binomial with n =1000 and p = 0.015

3 4 b>>> >>bn ∫ bn So the company should expect to pay out 15 million DKK

∩
b9 3bn ≀ b>>> ≀ >>bn4 ∫ >mi d

So there is a 43% chance that the company will need more than 15 million

∩
3>n ≀ b>>> ≀ >>bn4 ∫ dd

So, they would need to reserve a minimum of 22 million DKK, if they are to be 95% certain of having enough money

Assignment 3

∩
3 4 >qi 3 4 >qd 3 4 >pq

P(A | D) = >pq / >qi ∫ >m

∩

P(D | A) = >pq / >qd ⌠ ><nb

∩
P(A | - D) = 3>qd 9 >pq4 / b 9 >qi ⌠ >di n

Assignment 4

Evidence

	Sample1	Sample2	
Size	12	12	n
Mean	37900	39800	x-bar
Std. Deviation	5100	5900	s

Assumptions

Populations Normal

H_0: Population Variances Equal

F ratio	1.33833
p-value	0.6372

Assuming Population Variances are Equal

Pooled Variance	3E+07	s^2_p
Test Statistic	-0.8440	t
df	22	

At an α of

Null Hypothesis	p-value	5%
H_0: $\mu_1 - \mu_2 = 0$	0.4078	
H_0: $\mu_1 - \mu_2 >= 0$	0.2039	
H_0: $\mu_1 - \mu_2 <= 0$	0.7961	

Confidence Interval for difference in Population Means

1 − α	Confidence Interval	
95%	-1900 ± 4668.9	= [-6568.9 , 2768.9]

There is not sufficient evidence to support the claim that the two tries differ significantly

Assignment 5

Evidence

	Sample 1	Sample 2	
Size	200	150	n
#Successes	20	10	x
Proportion	0.1000	0.0667	p-hat

Assumption

Large Samples

Hypothesis Testing

Hypothesized Difference Zero

Pooled p-hat	0.0857	
Test Statistic	1.1024	z

At an α of

Null Hypothesis	p-value	5%
H_0: $p_1 - p_2 = 0$	0.2703	
H_0: $p_1 - p_2 >= 0$	0.8649	
H_0: $p_1 - p_2 <= 0$	0.1351	

Since p-value = 0.1351 we do not have evidence to support the claim that breast cancer is more prevalent in the urban community

Assignment 6

r^2	0.4298	Coefficient of Determination
r	-0.6556	Coefficient of Correlation
$s(b_1)$	0.249908713	Standard Error of Slope
t	-2.745310948	
p-value	#NUM!	
$s(b_0)$	6.50653544	Standard Error of Intercept
s	1.63965003	Standard Error of prediction

Confidence Interval for Slope

$1-\alpha$	$(1-\alpha)$ C.I. for β_1		
95%	-0.6861	+ or -	0.55683

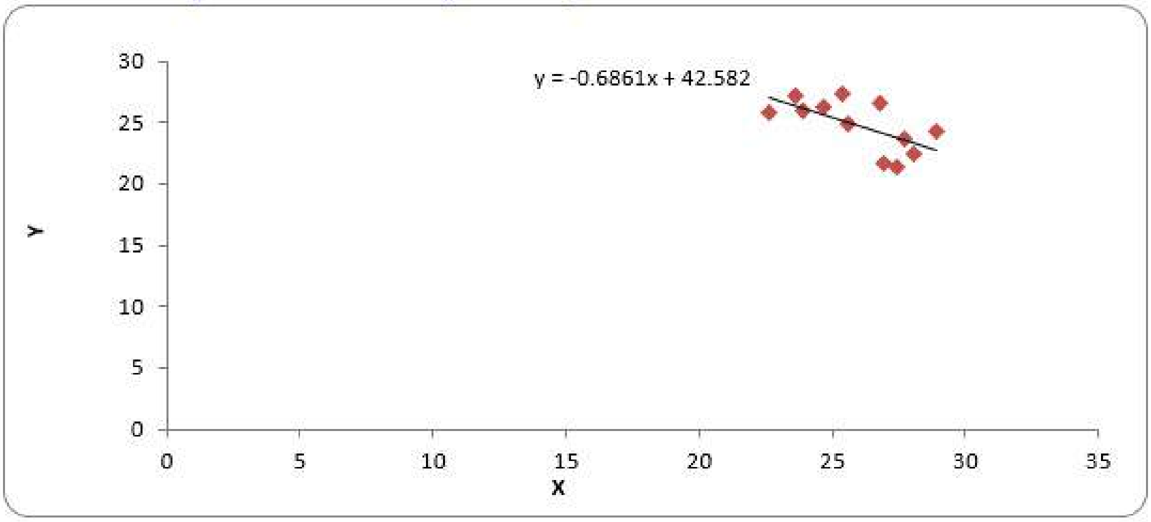
Confidence Interval for Intercept

$1-\alpha$	$(1-\alpha)$ C.I. for β_0		
95%	42.5818	+ or -	14.4975

Prediction Interval for Y

$1-\alpha$	X	$(1-\alpha)$ C.I. for Y given X		
95%	30	21.9995	+ or -	4.41626
		17.5832	26.4157	

Scatter Plot, Regression Line and Regression Equation



Residual Analysis

Durbin-Watson statistic

d 0.36747