Nomor 1.

Perlakuan 1	Perlakuan 2	Perlakuan 3
19	16	13
18	11	16
21	13	18
18	14	11
	11	15
		11

* Perlakuan 1:
  Mean = $\frac{19+18+21+18}{4} = \frac{76}{4} = 19$

* Perlakuan 2:
  Mean = $\frac{16+11+13+14+11}{5} = 13$

* Perlakuan 3:
  Mean = $\frac{13+16+18+11+15+11}{6} = 14$

* Grand mean = 15,33

ANOVA

* SST : $(19-15{,}33)^2 + (18-15{,}33)^2 \ldots + (18-15{,}33)^2 + (16-15{,}33)^2 + \ldots + (11-15{,}33)^2 = 154$
* SSE : $(19-19)^2 + (18-19)^2 + \ldots (11-14)^2 = 64$
* SSC : SST − SSE = 90

* $df_C = 2$, $df_E = 12$, $df_{total} = 14$

* $MSC = \frac{SSC}{df_C} = \frac{90}{2} = 45$
* $MSE = \frac{SSE}{df_E} = \frac{64}{12} = 5{,}3$
* $F = \frac{MSC}{MSE} = \frac{45}{5{,}33} = 8{,}4375$

	SS	df	MS	F
perlakuan	90	2	45	
galat	64	12	5,33	
total	154	14		

> $F_{(0{,}05;2;12)} = 3{,}88$
>
> Tolak H_0, maka terdapat pengaruh dari perlakuan terhadap saos.

Nomor 2.

Location	Type I	Type II	Type III
East	54, 61, 59, 56, 70, 62,	48, 50, 49, 60, 54, 52	71, 76, 65, 70, 68
	63, 57, 68,	49, 55, 53	62, 73, 60, 79
Central	52, 50, 58, 59, 62,	44, 49, 54, 53, 51, 60	61, 64, 69, 58, 57,
	57, 58, 63, 61	55, 47, 58	63, 65, 63, 50
West	63, 67, 68, 72, 68,	65, 58, 62, 70, 57,	82, 75, 79, 77, 80
	75, 62, 65, 70	61, 68, 65, 73	69, 84, 83, 76

* Faktor location

$SS = 27(60.88 - 62.61)^2 + 27(56.8 - 62.61)^2 + 27(70.14 - 62.61)^2 = 2520,9$

$df = 3 - 1 = 2$

$MS = \frac{SS}{df} = \frac{2520,9}{2} = 1260.49$

$F = \frac{1260,49}{24,8} = 50.64$

Mean table

	Type I	Type II	Type III	
East	61,1	52,2	69,3	60,8
Central	57.8	51,4	61,1	56,8
West	67,7	64,3	78,3	70.14
	62,2	56	69,5	62.61

* Faktor Job Type

$SS = 27(62,2 - 62,61)^2 + 27(56 - 62,61)^2 + 27(69,5 - 62,61)^2 = 2499,43$

$df = 3 - 1 = 2$

$MS = \frac{2499,43}{2} = 1249,71$

$F = \frac{1249,71}{24,8} = 50,21$

* Faktor Error

SS (selisih data dengan mean) = 1792

$df = 81 - (3 \cdot 3) = 72$

$MS = \frac{1792}{72} = 24,8$

* Total

$SS = (50 - 62,61)^2 + (48 - 62,61)^2 + \ldots + (76, 62,61)^2 = 7025,136$

$df = 81 - 1 = 80$

* Interaction

SS = SS Total - SS Faktor location - SS faktor Job type - SS Error

= 212,716

$df = (3-1)(3-1) = 4$

$MS = \frac{212,716}{4} = 53,1$

$F = \frac{53,1}{24,8} = 2,13$

ANOVA

	SS	df	MS	F	$F_{(\alpha, df\ faktor, df\ error)}$	
Location	2520,98	2	1260.49e	50,64	3,123	Tolak H_0
Job Type	2499,43	2	1249.416	50,21	3,123	Tolak H_0
Interaksi	212,716	4	53,179	2,13	2,498	Gagal Tolak H_0
Error	1792	72	24,8			
Total	7025,136	80				

Kesimpulan

- Ada perbedaan gaji dari 3 lokasi yang dramati
- Ada perbedaan gaji dari 3 tipe pekerjaan
- Tidak ada interaksi antara lokasi dan tipe pekerjaan