

Assignment_06_TorresGloria

Torres Gloria

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```
## Set the working directory to the root of your DSC 520 directory
setwd('C:/Users/glori/OneDrive/Documents/Gloria GIT/Gloria_Torres_DSC_520')

## Load the `data/r4ds/heights.csv` to
heights_df <- read.csv("data/r4ds/heights.csv")
new_ages<- read.csv("data/r4ds/heights.csv")

## Load the ggplot2 library
library(ggplot2)

## Fit a linear model using the `age` variable as the predictor and `earn` as the outcome
age_lm <- lm(earn ~ age, data = heights_df)

## View the summary of your model using `summary()`
summary(age_lm)

##
## Call:
## lm(formula = earn ~ age, data = heights_df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -25098 -12622  -3667   6883  177579
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  19041.53    1571.26   12.119  < 2e-16 ***
## age           99.41       35.46    2.804  0.00514 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 19420 on 1190 degrees of freedom
## Multiple R-squared:  0.006561, Adjusted R-squared:  0.005727
## F-statistic:  7.86 on 1 and 1190 DF, p-value: 0.005137

## Creating predictions using `predict()`
age_predict_df <- data.frame(earn = predict(age_lm), age=new_ages$age)
age_predict_df
```

##	earn	age
## 1	23514.79	45
## 2	24807.06	58
## 3	21924.29	29
## 4	28087.45	91
## 5	22918.35	39
## 6	21626.08	26
## 7	23912.41	49
## 8	23614.19	46
## 9	21129.05	21
## 10	21626.08	26
## 11	25502.90	65
## 12	22421.32	34
## 13	21725.48	27
## 14	24111.22	51
## 15	22520.73	35
## 16	24807.06	58
## 17	21924.29	29
## 18	23415.38	44
## 19	24508.84	55
## 20	22520.73	35
## 21	24111.22	51
## 22	21129.05	21
## 23	21228.45	22
## 24	23117.16	41
## 25	23514.79	45
## 26	22520.73	35
## 27	25005.87	60
## 28	22818.95	38
## 29	22321.92	33
## 30	21526.67	25
## 31	22321.92	33
## 32	22918.35	39
## 33	22123.11	31
## 34	21626.08	26
## 35	26795.18	78
## 36	22123.11	31
## 37	24707.66	57
## 38	21626.08	26
## 39	25502.90	65
## 40	22023.70	30
## 41	23117.16	41
## 42	21924.29	29
## 43	22023.70	30
## 44	21129.05	21
## 45	22222.51	32
## 46	21924.29	29
## 47	20830.83	18
## 48	24608.25	56
## 49	25502.90	65
## 50	23117.16	41
## 51	23912.41	49
## 52	25502.90	65
## 53	21824.89	28

## 54	22222.51	32
## 55	20830.83	18
## 56	24508.84	55
## 57	24707.66	57
## 58	21924.29	29
## 59	21725.48	27
## 60	21824.89	28
## 61	23315.97	43
## 62	25801.12	68
## 63	24210.63	52
## 64	22918.35	39
## 65	24310.03	53
## 66	21725.48	27
## 67	21129.05	21
## 68	22918.35	39
## 69	21228.45	22
## 70	25801.12	68
## 71	23713.60	47
## 72	25701.71	67
## 73	22918.35	39
## 74	22918.35	39
## 75	22222.51	32
## 76	22321.92	33
## 77	22818.95	38
## 78	21626.08	26
## 79	25304.09	63
## 80	25105.28	61
## 81	22620.13	36
## 82	21327.86	23
## 83	21029.64	20
## 84	22222.51	32
## 85	21725.48	27
## 86	21228.45	22
## 87	26298.15	73
## 88	24608.25	56
## 89	27888.64	89
## 90	26894.58	79
## 91	25304.09	63
## 92	25602.31	66
## 93	22321.92	33
## 94	22023.70	30
## 95	21327.86	23
## 96	23315.97	43
## 97	22023.70	30
## 98	22719.54	37
## 99	21228.45	22
## 100	23315.97	43
## 101	22719.54	37
## 102	23415.38	44
## 103	23315.97	43
## 104	22023.70	30
## 105	24807.06	58
## 106	23415.38	44
## 107	22520.73	35

##	108	23315.97	43
##	109	21824.89	28
##	110	22818.95	38
##	111	23017.76	40
##	112	21427.26	24
##	113	21626.08	26
##	114	21129.05	21
##	115	22520.73	35
##	116	22123.11	31
##	117	22818.95	38
##	118	22520.73	35
##	119	23117.16	41
##	120	22918.35	39
##	121	23315.97	43
##	122	23017.76	40
##	123	23216.57	42
##	124	25204.68	62
##	125	22123.11	31
##	126	26099.34	71
##	127	22123.11	31
##	128	22222.51	32
##	129	22023.70	30
##	130	25900.52	69
##	131	24608.25	56
##	132	23415.38	44
##	133	23415.38	44
##	134	24608.25	56
##	135	23514.79	45
##	136	24011.81	50
##	137	21228.45	22
##	138	21824.89	28
##	139	21725.48	27
##	140	21824.89	28
##	141	23315.97	43
##	142	21626.08	26
##	143	23216.57	42
##	144	22222.51	32
##	145	20830.83	18
##	146	25005.87	60
##	147	23614.19	46
##	148	22918.35	39
##	149	23614.19	46
##	150	23912.41	49
##	151	22421.32	34
##	152	25403.50	64
##	153	21427.26	24
##	154	22222.51	32
##	155	25105.28	61
##	156	23813.00	48
##	157	23912.41	49
##	158	22620.13	36
##	159	24608.25	56
##	160	22719.54	37
##	161	26397.55	74

##	162	23614.19	46
##	163	25304.09	63
##	164	25304.09	63
##	165	23315.97	43
##	166	21526.67	25
##	167	24011.81	50
##	168	23216.57	42
##	169	23912.41	49
##	170	22719.54	37
##	171	25502.90	65
##	172	24707.66	57
##	173	22818.95	38
##	174	23315.97	43
##	175	23514.79	45
##	176	23713.60	47
##	177	21824.89	28
##	178	23117.16	41
##	179	22222.51	32
##	180	23713.60	47
##	181	25204.68	62
##	182	22918.35	39
##	183	22818.95	38
##	184	22918.35	39
##	185	25801.12	68
##	186	24011.81	50
##	187	24011.81	50
##	188	24111.22	51
##	189	21228.45	22
##	190	26695.77	77
##	191	24111.22	51
##	192	22222.51	32
##	193	24409.44	54
##	194	21824.89	28
##	195	21427.26	24
##	196	23614.19	46
##	197	22818.95	38
##	198	23415.38	44
##	199	22222.51	32
##	200	22321.92	33
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##	202	24011.81	50
##	203	23514.79	45
##	204	22321.92	33
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##	206	22023.70	30
##	207	21228.45	22
##	208	23315.97	43
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##	210	21129.05	21
##	211	26298.15	73
##	212	22023.70	30
##	213	21824.89	28
##	214	21228.45	22
##	215	24508.84	55

##	216	22918.35	39
##	217	24111.22	51
##	218	23117.16	41
##	219	22421.32	34
##	220	25900.52	69
##	221	22918.35	39
##	222	25403.50	64
##	223	22421.32	34
##	224	25304.09	63
##	225	23415.38	44
##	226	22818.95	38
##	227	22421.32	34
##	228	22918.35	39
##	229	27192.80	82
##	230	22918.35	39
##	231	21327.86	23
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##	234	23117.16	41
##	235	22818.95	38
##	236	22023.70	30
##	237	22321.92	33
##	238	25105.28	61
##	239	22719.54	37
##	240	21924.29	29
##	241	21924.29	29
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##	244	21327.86	23
##	245	25502.90	65
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##	252	24210.63	52
##	253	22719.54	37
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##	259	22520.73	35
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##	264	22222.51	32
##	265	23216.57	42
##	266	25701.71	67
##	267	24310.03	53
##	268	24310.03	53
##	269	23912.41	49

##	270	24409.44	54
##	271	23514.79	45
##	272	21427.26	24
##	273	22818.95	38
##	274	21626.08	26
##	275	21824.89	28
##	276	22918.35	39
##	277	24011.81	50
##	278	21924.29	29
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##	280	21327.86	23
##	281	24807.06	58
##	282	22321.92	33
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##	284	22023.70	30
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##	286	25801.12	68
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##	308	23415.38	44
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##	311	22818.95	38
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##	314	23117.16	41
##	315	24906.47	59
##	316	25602.31	66
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##	318	25304.09	63
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##	330	23017.76	40
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##	339	22123.11	31
##	340	23813.00	48
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##	343	27192.80	82
##	344	27093.39	81
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##	353	23315.97	43
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##	393	22918.35	39
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##	395	26397.55	74
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##	421	22023.70	30
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##	428	21824.89	28
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##	438	23117.16	41
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##	442	23415.38	44
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##	445	23415.38	44
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##	452	23216.57	42
##	453	23912.41	49
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##	459	21427.26	24
##	460	22620.13	36
##	461	22818.95	38
##	462	25701.71	67
##	463	23017.76	40
##	464	24011.81	50
##	465	22123.11	31
##	466	21526.67	25
##	467	22620.13	36
##	468	21725.48	27
##	469	22023.70	30
##	470	21129.05	21
##	471	22719.54	37
##	472	21824.89	28
##	473	24508.84	55
##	474	23117.16	41
##	475	23415.38	44
##	476	22222.51	32
##	477	22123.11	31
##	478	25900.52	69
##	479	23315.97	43
##	480	22421.32	34
##	481	22321.92	33
##	482	21427.26	24
##	483	24310.03	53
##	484	23216.57	42
##	485	23514.79	45

##	486	25403.50	64
##	487	22719.54	37
##	488	22719.54	37
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##	495	22321.92	33
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##	497	23315.97	43
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##	503	22520.73	35
##	504	25105.28	61
##	505	24508.84	55
##	506	22520.73	35
##	507	22520.73	35
##	508	23017.76	40
##	509	20930.24	19
##	510	22123.11	31
##	511	21626.08	26
##	512	22421.32	34
##	513	22321.92	33
##	514	21725.48	27
##	515	21924.29	29
##	516	22222.51	32
##	517	21526.67	25
##	518	21129.05	21
##	519	21129.05	21
##	520	21129.05	21
##	521	23017.76	40
##	522	22719.54	37
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##	524	21228.45	22
##	525	22123.11	31
##	526	22620.13	36
##	527	25204.68	62
##	528	20930.24	19
##	529	21327.86	23
##	530	20830.83	18
##	531	21725.48	27
##	532	24707.66	57
##	533	22421.32	34
##	534	22520.73	35
##	535	22222.51	32
##	536	20930.24	19
##	537	21924.29	29
##	538	24409.44	54
##	539	27093.39	81

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##	541	22023.70	30
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##	543	22222.51	32
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##	545	23713.60	47
##	546	25204.68	62
##	547	23216.57	42
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##	549	22321.92	33
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##	551	21427.26	24
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##	554	21824.89	28
##	555	22023.70	30
##	556	23614.19	46
##	557	22719.54	37
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##	559	22719.54	37
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##	561	21725.48	27
##	562	22620.13	36
##	563	24111.22	51
##	564	22719.54	37
##	565	25304.09	63
##	566	23514.79	45
##	567	23912.41	49
##	568	23017.76	40
##	569	24111.22	51
##	570	24608.25	56
##	571	21626.08	26
##	572	21526.67	25
##	573	26795.18	78
##	574	23514.79	45
##	575	25105.28	61
##	576	21029.64	20
##	577	23216.57	42
##	578	25900.52	69
##	579	22818.95	38
##	580	23315.97	43
##	581	22321.92	33
##	582	22321.92	33
##	583	23017.76	40
##	584	25204.68	62
##	585	22123.11	31
##	586	22719.54	37
##	587	22918.35	39
##	588	22818.95	38
##	589	21626.08	26
##	590	22918.35	39
##	591	23216.57	42
##	592	22321.92	33
##	593	21924.29	29

##	594	23117.16	41
##	595	23315.97	43
##	596	21327.86	23
##	597	22719.54	37
##	598	23216.57	42
##	599	22520.73	35
##	600	22421.32	34
##	601	21824.89	28
##	602	24111.22	51
##	603	23315.97	43
##	604	23017.76	40
##	605	22023.70	30
##	606	21526.67	25
##	607	25204.68	62
##	608	23315.97	43
##	609	23117.16	41
##	610	25105.28	61
##	611	26298.15	73
##	612	21526.67	25
##	613	21129.05	21
##	614	21626.08	26
##	615	21029.64	20
##	616	22719.54	37
##	617	23017.76	40
##	618	23216.57	42
##	619	24807.06	58
##	620	21029.64	20
##	621	21327.86	23
##	622	26397.55	74
##	623	22520.73	35
##	624	25602.31	66
##	625	22918.35	39
##	626	22421.32	34
##	627	23117.16	41
##	628	21427.26	24
##	629	20930.24	19
##	630	22123.11	31
##	631	22620.13	36
##	632	22222.51	32
##	633	25005.87	60
##	634	23315.97	43
##	635	23713.60	47
##	636	23514.79	45
##	637	22222.51	32
##	638	24011.81	50
##	639	24409.44	54
##	640	21427.26	24
##	641	22818.95	38
##	642	26099.34	71
##	643	21427.26	24
##	644	22818.95	38
##	645	22421.32	34
##	646	22123.11	31
##	647	21029.64	20

##	648	23117.16	41
##	649	21526.67	25
##	650	21725.48	27
##	651	22023.70	30
##	652	21626.08	26
##	653	23415.38	44
##	654	22023.70	30
##	655	22123.11	31
##	656	26496.96	75
##	657	21626.08	26
##	658	21228.45	22
##	659	23912.41	49
##	660	22918.35	39
##	661	21824.89	28
##	662	23614.19	46
##	663	22520.73	35
##	664	24210.63	52
##	665	23017.76	40
##	666	23117.16	41
##	667	23216.57	42
##	668	21228.45	22
##	669	21526.67	25
##	670	23415.38	44
##	671	24608.25	56
##	672	21725.48	27
##	673	25204.68	62
##	674	24409.44	54
##	675	20830.83	18
##	676	26298.15	73
##	677	22123.11	31
##	678	23216.57	42
##	679	21327.86	23
##	680	25304.09	63
##	681	21029.64	20
##	682	21824.89	28
##	683	22222.51	32
##	684	25602.31	66
##	685	25701.71	67
##	686	21824.89	28
##	687	24807.06	58
##	688	23117.16	41
##	689	22918.35	39
##	690	25005.87	60
##	691	23514.79	45
##	692	25403.50	64
##	693	22023.70	30
##	694	27192.80	82
##	695	21824.89	28
##	696	24807.06	58
##	697	21725.48	27
##	698	22818.95	38
##	699	26695.77	77
##	700	22222.51	32
##	701	21427.26	24

##	702	23912.41	49
##	703	21228.45	22
##	704	21129.05	21
##	705	23017.76	40
##	706	23216.57	42
##	707	24310.03	53
##	708	22321.92	33
##	709	21129.05	21
##	710	28087.45	91
##	711	21626.08	26
##	712	22421.32	34
##	713	22023.70	30
##	714	23614.19	46
##	715	23614.19	46
##	716	23216.57	42
##	717	23117.16	41
##	718	23017.76	40
##	719	23017.76	40
##	720	26099.34	71
##	721	21526.67	25
##	722	26795.18	78
##	723	21626.08	26
##	724	25602.31	66
##	725	26596.36	76
##	726	22321.92	33
##	727	27391.61	84
##	728	24807.06	58
##	729	24210.63	52
##	730	23315.97	43
##	731	24707.66	57
##	732	25105.28	61
##	733	21924.29	29
##	734	22222.51	32
##	735	22023.70	30
##	736	22123.11	31
##	737	26496.96	75
##	738	22719.54	37
##	739	21824.89	28
##	740	22719.54	37
##	741	25105.28	61
##	742	22222.51	32
##	743	22620.13	36
##	744	26099.34	71
##	745	23614.19	46
##	746	26695.77	77
##	747	21526.67	25
##	748	24210.63	52
##	749	22620.13	36
##	750	21626.08	26
##	751	24807.06	58
##	752	23514.79	45
##	753	21526.67	25
##	754	25204.68	62
##	755	21526.67	25

##	756	23813.00	48
##	757	24707.66	57
##	758	21228.45	22
##	759	21427.26	24
##	760	22321.92	33
##	761	21526.67	25
##	762	21725.48	27
##	763	23912.41	49
##	764	23614.19	46
##	765	22421.32	34
##	766	25602.31	66
##	767	22520.73	35
##	768	21526.67	25
##	769	22023.70	30
##	770	21626.08	26
##	771	23415.38	44
##	772	24111.22	51
##	773	21924.29	29
##	774	22421.32	34
##	775	22123.11	31
##	776	23017.76	40
##	777	23216.57	42
##	778	22023.70	30
##	779	23216.57	42
##	780	24011.81	50
##	781	26496.96	75
##	782	23614.19	46
##	783	20930.24	19
##	784	23514.79	45
##	785	25900.52	69
##	786	22321.92	33
##	787	23017.76	40
##	788	20930.24	19
##	789	22421.32	34
##	790	21427.26	24
##	791	21327.86	23
##	792	24508.84	55
##	793	23713.60	47
##	794	24409.44	54
##	795	22719.54	37
##	796	23017.76	40
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##	798	21924.29	29
##	799	23017.76	40
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##	801	22818.95	38
##	802	21228.45	22
##	803	24906.47	59
##	804	23614.19	46
##	805	22123.11	31
##	806	23614.19	46
##	807	22520.73	35
##	808	25005.87	60
##	809	21824.89	28

##	810	23614.19	46
##	811	26795.18	78
##	812	25502.90	65
##	813	21228.45	22
##	814	22123.11	31
##	815	22123.11	31
##	816	27292.21	83
##	817	23315.97	43
##	818	23415.38	44
##	819	23017.76	40
##	820	24807.06	58
##	821	24111.22	51
##	822	22023.70	30
##	823	22123.11	31
##	824	21824.89	28
##	825	24011.81	50
##	826	22719.54	37
##	827	27491.02	85
##	828	21725.48	27
##	829	23713.60	47
##	830	22421.32	34
##	831	21427.26	24
##	832	24111.22	51
##	833	23415.38	44
##	834	21228.45	22
##	835	23614.19	46
##	836	23017.76	40
##	837	23117.16	41
##	838	23216.57	42
##	839	20930.24	19
##	840	27292.21	83
##	841	25304.09	63
##	842	24906.47	59
##	843	24906.47	59
##	844	23117.16	41
##	845	24807.06	58
##	846	22520.73	35
##	847	22123.11	31
##	848	24906.47	59
##	849	25602.31	66
##	850	24807.06	58
##	851	21029.64	20
##	852	22421.32	34
##	853	24508.84	55
##	854	23713.60	47
##	855	24111.22	51
##	856	22421.32	34
##	857	21626.08	26
##	858	20830.83	18
##	859	23713.60	47
##	860	25204.68	62
##	861	22620.13	36
##	862	27789.23	88
##	863	22520.73	35

##	864	23315.97	43
##	865	21626.08	26
##	866	21824.89	28
##	867	22321.92	33
##	868	24111.22	51
##	869	22421.32	34
##	870	24409.44	54
##	871	23216.57	42
##	872	24210.63	52
##	873	25105.28	61
##	874	21626.08	26
##	875	23813.00	48
##	876	22918.35	39
##	877	25502.90	65
##	878	25403.50	64
##	879	26795.18	78
##	880	21924.29	29
##	881	23216.57	42
##	882	26198.74	72
##	883	27689.83	87
##	884	23017.76	40
##	885	23514.79	45
##	886	21228.45	22
##	887	21427.26	24
##	888	21427.26	24
##	889	21924.29	29
##	890	21924.29	29
##	891	23713.60	47
##	892	22321.92	33
##	893	20930.24	19
##	894	21327.86	23
##	895	23216.57	42
##	896	23813.00	48
##	897	21824.89	28
##	898	20830.83	18
##	899	21129.05	21
##	900	22520.73	35
##	901	21526.67	25
##	902	23713.60	47
##	903	21129.05	21
##	904	24111.22	51
##	905	24409.44	54
##	906	23315.97	43
##	907	25304.09	63
##	908	22123.11	31
##	909	21725.48	27
##	910	24011.81	50
##	911	23713.60	47
##	912	23514.79	45
##	913	23813.00	48
##	914	22421.32	34
##	915	23614.19	46
##	916	21427.26	24
##	917	25105.28	61

##	918	24310.03	53
##	919	21924.29	29
##	920	27292.21	83
##	921	22222.51	32
##	922	23017.76	40
##	923	22023.70	30
##	924	23813.00	48
##	925	21824.89	28
##	926	23017.76	40
##	927	21924.29	29
##	928	23117.16	41
##	929	21327.86	23
##	930	22818.95	38
##	931	21327.86	23
##	932	23514.79	45
##	933	24310.03	53
##	934	23813.00	48
##	935	21725.48	27
##	936	22719.54	37
##	937	22222.51	32
##	938	25801.12	68
##	939	27192.80	82
##	940	25602.31	66
##	941	25304.09	63
##	942	26993.99	80
##	943	26496.96	75
##	944	21327.86	23
##	945	22023.70	30
##	946	24210.63	52
##	947	23017.76	40
##	948	25801.12	68
##	949	21327.86	23
##	950	22818.95	38
##	951	25900.52	69
##	952	22818.95	38
##	953	20830.83	18
##	954	20830.83	18
##	955	22620.13	36
##	956	22123.11	31
##	957	22918.35	39
##	958	25403.50	64
##	959	25204.68	62
##	960	25403.50	64
##	961	20830.83	18
##	962	22321.92	33
##	963	22222.51	32
##	964	21327.86	23
##	965	21626.08	26
##	966	21427.26	24
##	967	21626.08	26
##	968	21228.45	22
##	969	21228.45	22
##	970	21129.05	21
##	971	23514.79	45

##	972	22918.35	39
##	973	24906.47	59
##	974	22421.32	34
##	975	23315.97	43
##	976	21526.67	25
##	977	23315.97	43
##	978	24508.84	55
##	979	22818.95	38
##	980	22520.73	35
##	981	21427.26	24
##	982	21327.86	23
##	983	21824.89	28
##	984	26298.15	73
##	985	26099.34	71
##	986	23614.19	46
##	987	21626.08	26
##	988	22222.51	32
##	989	21725.48	27
##	990	21824.89	28
##	991	24906.47	59
##	992	24111.22	51
##	993	22321.92	33
##	994	22818.95	38
##	995	23813.00	48
##	996	24111.22	51
##	997	23117.16	41
##	998	23813.00	48
##	999	23912.41	49
##	1000	25204.68	62
##	1001	22321.92	33
##	1002	25204.68	62
##	1003	25403.50	64
##	1004	26397.55	74
##	1005	24906.47	59
##	1006	24011.81	50
##	1007	23315.97	43
##	1008	21626.08	26
##	1009	22620.13	36
##	1010	26795.18	78
##	1011	21526.67	25
##	1012	26695.77	77
##	1013	25900.52	69
##	1014	26298.15	73
##	1015	26695.77	77
##	1016	22321.92	33
##	1017	23017.76	40
##	1018	23813.00	48
##	1019	22123.11	31
##	1020	26198.74	72
##	1021	24508.84	55
##	1022	21824.89	28
##	1023	22719.54	37
##	1024	22123.11	31
##	1025	25602.31	66

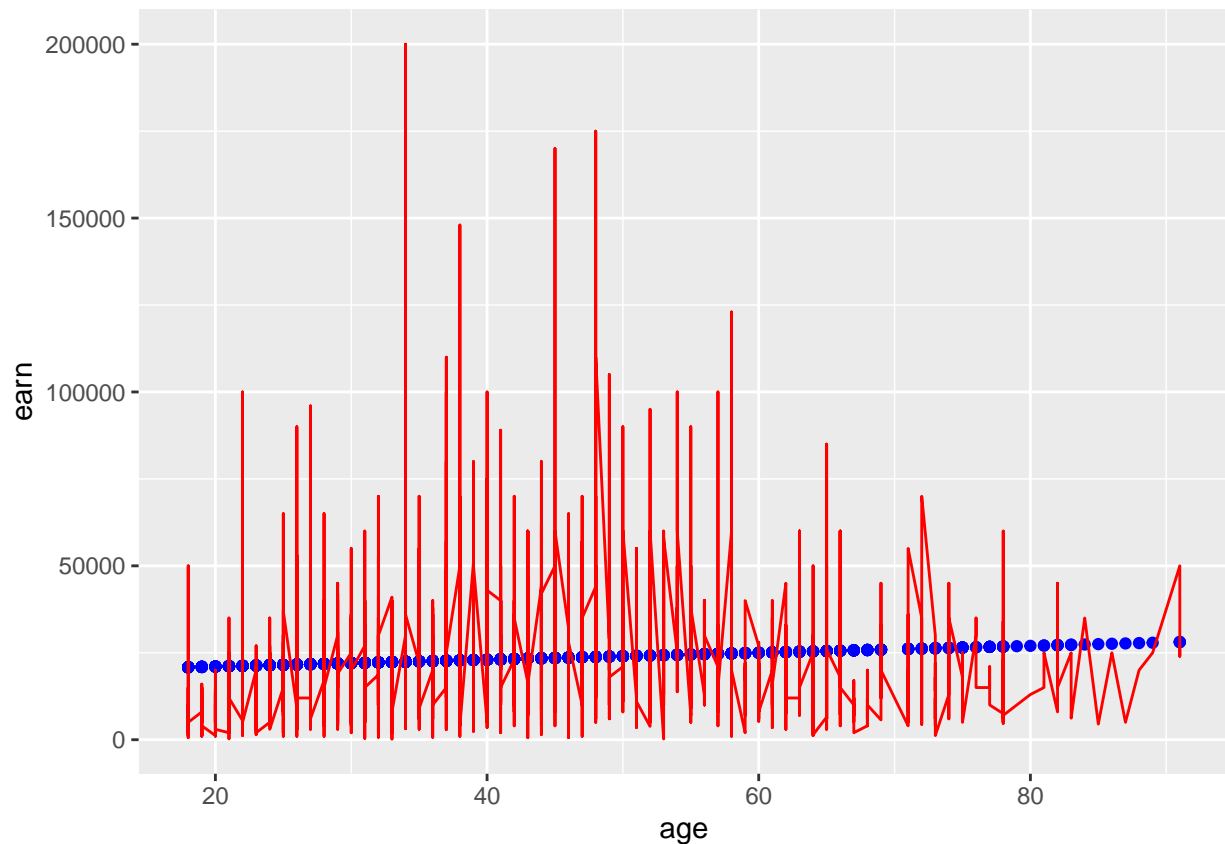
##	1026	25900.52	69
##	1027	27590.42	86
##	1028	25304.09	63
##	1029	23713.60	47
##	1030	24906.47	59
##	1031	24111.22	51
##	1032	22421.32	34
##	1033	22222.51	32
##	1034	23315.97	43
##	1035	21228.45	22
##	1036	22421.32	34
##	1037	22520.73	35
##	1038	22719.54	37
##	1039	20830.83	18
##	1040	25005.87	60
##	1041	23415.38	44
##	1042	21029.64	20
##	1043	24111.22	51
##	1044	23117.16	41
##	1045	22719.54	37
##	1046	26099.34	71
##	1047	25602.31	66
##	1048	22620.13	36
##	1049	22620.13	36
##	1050	21129.05	21
##	1051	26397.55	74
##	1052	22222.51	32
##	1053	22421.32	34
##	1054	22023.70	30
##	1055	22321.92	33
##	1056	22222.51	32
##	1057	22023.70	30
##	1058	23614.19	46
##	1059	24409.44	54
##	1060	25204.68	62
##	1061	26496.96	75
##	1062	25304.09	63
##	1063	22222.51	32
##	1064	21526.67	25
##	1065	22620.13	36
##	1066	26298.15	73
##	1067	22918.35	39
##	1068	22918.35	39
##	1069	21725.48	27
##	1070	25502.90	65
##	1071	23713.60	47
##	1072	21228.45	22
##	1073	21228.45	22
##	1074	21725.48	27
##	1075	24807.06	58
##	1076	22222.51	32
##	1077	22421.32	34
##	1078	22421.32	34
##	1079	23514.79	45

##	1080	20830.83	18
##	1081	25900.52	69
##	1082	21327.86	23
##	1083	22023.70	30
##	1084	25502.90	65
##	1085	26496.96	75
##	1086	21129.05	21
##	1087	23813.00	48
##	1088	22520.73	35
##	1089	24210.63	52
##	1090	20930.24	19
##	1091	25403.50	64
##	1092	23315.97	43
##	1093	22123.11	31
##	1094	24807.06	58
##	1095	22620.13	36
##	1096	20830.83	18
##	1097	21228.45	22
##	1098	21824.89	28
##	1099	26298.15	73
##	1100	21526.67	25
##	1101	25005.87	60
##	1102	22023.70	30
##	1103	22719.54	37
##	1104	21924.29	29
##	1105	22620.13	36
##	1106	25900.52	69
##	1107	23017.76	40
##	1108	25801.12	68
##	1109	23813.00	48
##	1110	21626.08	26
##	1111	23315.97	43
##	1112	22620.13	36
##	1113	23017.76	40
##	1114	22321.92	33
##	1115	22421.32	34
##	1116	22123.11	31
##	1117	21824.89	28
##	1118	23117.16	41
##	1119	21228.45	22
##	1120	21626.08	26
##	1121	20830.83	18
##	1122	21924.29	29
##	1123	20830.83	18
##	1124	21725.48	27
##	1125	21725.48	27
##	1126	22719.54	37
##	1127	23415.38	44
##	1128	22321.92	33
##	1129	25502.90	65
##	1130	21427.26	24
##	1131	20930.24	19
##	1132	25701.71	67
##	1133	20930.24	19

##	1134	24807.06	58
##	1135	24011.81	50
##	1136	23315.97	43
##	1137	23117.16	41
##	1138	24011.81	50
##	1139	25502.90	65
##	1140	21129.05	21
##	1141	25105.28	61
##	1142	21725.48	27
##	1143	21824.89	28
##	1144	23315.97	43
##	1145	23315.97	43
##	1146	22620.13	36
##	1147	22421.32	34
##	1148	22719.54	37
##	1149	22421.32	34
##	1150	21029.64	20
##	1151	21924.29	29
##	1152	21924.29	29
##	1153	22222.51	32
##	1154	23813.00	48
##	1155	22321.92	33
##	1156	24011.81	50
##	1157	22023.70	30
##	1158	22321.92	33
##	1159	22918.35	39
##	1160	26795.18	78
##	1161	22222.51	32
##	1162	21427.26	24
##	1163	23315.97	43
##	1164	24906.47	59
##	1165	26695.77	77
##	1166	22719.54	37
##	1167	24111.22	51
##	1168	23315.97	43
##	1169	21725.48	27
##	1170	21626.08	26
##	1171	21129.05	21
##	1172	23514.79	45
##	1173	23017.76	40
##	1174	22918.35	39
##	1175	22918.35	39
##	1176	21924.29	29
##	1177	24608.25	56
##	1178	21129.05	21
##	1179	22023.70	30
##	1180	26596.36	76
##	1181	22719.54	37
##	1182	25701.71	67
##	1183	21029.64	20
##	1184	23813.00	48
##	1185	26099.34	71
##	1186	24310.03	53
##	1187	22620.13	36

```
## 1188 21924.29 29
## 1189 27192.80 82
## 1190 22321.92 33
## 1191 24011.81 50
## 1192 21725.48 27
```

```
## Plot the predictions against the original data
ggplot(data = age_predict_df, aes(y = earn, x = age)) +
  geom_point(color='blue') +
  geom_line(color='red', data = heights_df, aes(y=earn, x=age))
```



```
mean_earn <- mean(heights_df$earn)
## Corrected Sum of Squares Total
sst <- sum((mean_earn - heights_df$earn)^2)
## Corrected Sum of Squares for Model
ssm <- sum((mean_earn - age_predict_df$earn)^2)
## Residuals
residuals <- heights_df$earn - age_predict_df$earn
## Sum of Squares for Error
sse <- sum(residuals^2)
## R Squared R^2 = SSM\SST
r_squared <- ssm/sst

## Number of observations
n <- 1192
```



```
## Number of regression parameters
```

```
p <- 2
```

```
## Corrected Degrees of Freedom for Model (p-1)
```

```
dfm <- p - 1
```

```
dfm
```

```
## [1] 1
```

```
## Degrees of Freedom for Error (n-p)
```

```
dfe <- n - p
```

```
dfe
```

```
## [1] 1190
```

```
## Corrected Degrees of Freedom Total:  $DFT = n - 1$ 
```

```
dft <- n - 1
```

```
dft
```

```
## [1] 1191
```

```
## Mean of Squares for Model:  $MSM = SSM / DFM$ 
```

```
msm <- ssm/dfm
```

```
msm
```

```
## [1] 2963111900
```

```
## Mean of Squares for Error:  $MSE = SSE / DFE$ 
```

```
mse <- sse/dfe
```

```
mse
```

```
## [1] 376998968
```

```
## Mean of Squares Total:  $MST = SST / DFT$ 
```

```
mst <- sst/dft
```

```
mst
```

```
## [1] 379170348
```

```
## F Statistic  $F = MSM/MSE$ 
```

```
f_score <- msm/mse
```

```
## Adjusted R Squared  $R^2 = 1 - (1 - R^2)(n - 1) / (n - p)$ 
```

```
summary(age_lm)$adj.r.squared # since I had issues applying this function( $2 = 1 - (1 - R^2)(n - 1) / (n$ 
```

```
## [1] 0.005726659
```

```
## Calculate the p-value from the F distribution
p_value <- pf(f_score, dfm, dft, lower.tail=F)
p_value
```

```
## [1] 0.005136826
```