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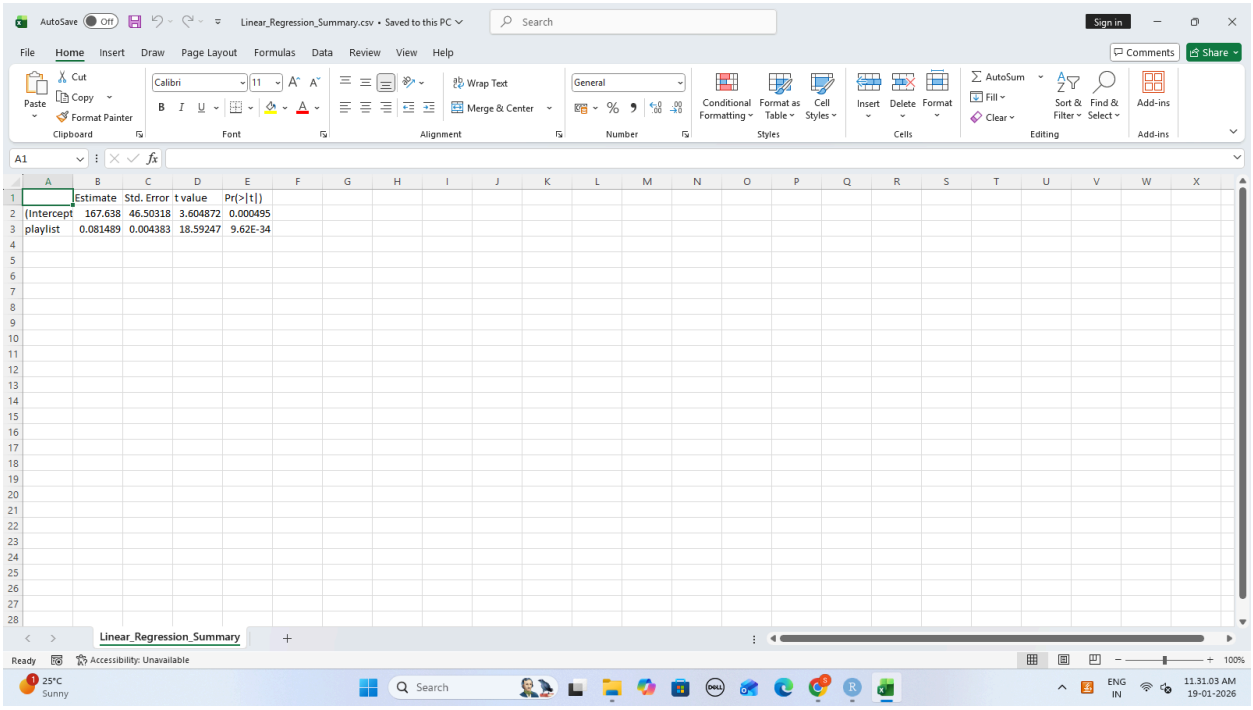
Aim :- Exporting results into external files (Excel, CSV, PDF) using write.csv() and writexl (R).

```
# ==================================
# Export Regression Results
# ==================================

# Model summary to dataframe
model_summary <- as.data.frame(summary(model)$coefficients)

write.csv(model_summary,
          "C:/Users/itlab/Downloads/Linear_Regression_Summary.csv",
          row.names = TRUE)
```



	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept	167.638	46.50318	3.604872	0.000495
playlist	0.081489	0.004383	18.59247	9.62E-34

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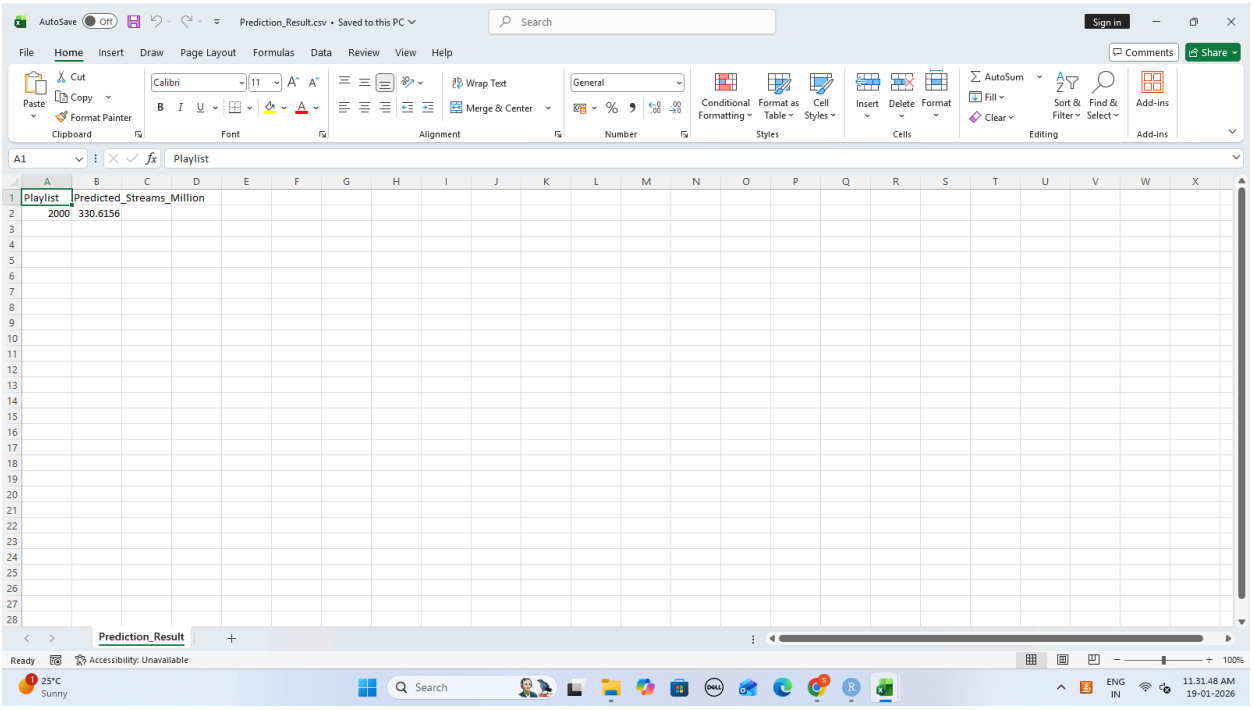
```
# Prediction export
prediction_df <- data.frame(
  Playlist = 2000,
  Predicted_Streams_Million = predicted_value
)

write.csv(prediction_df,
          "C:/Users/itlab/Downloads/Prediction_Result.csv",
          row.names = FALSE)
```



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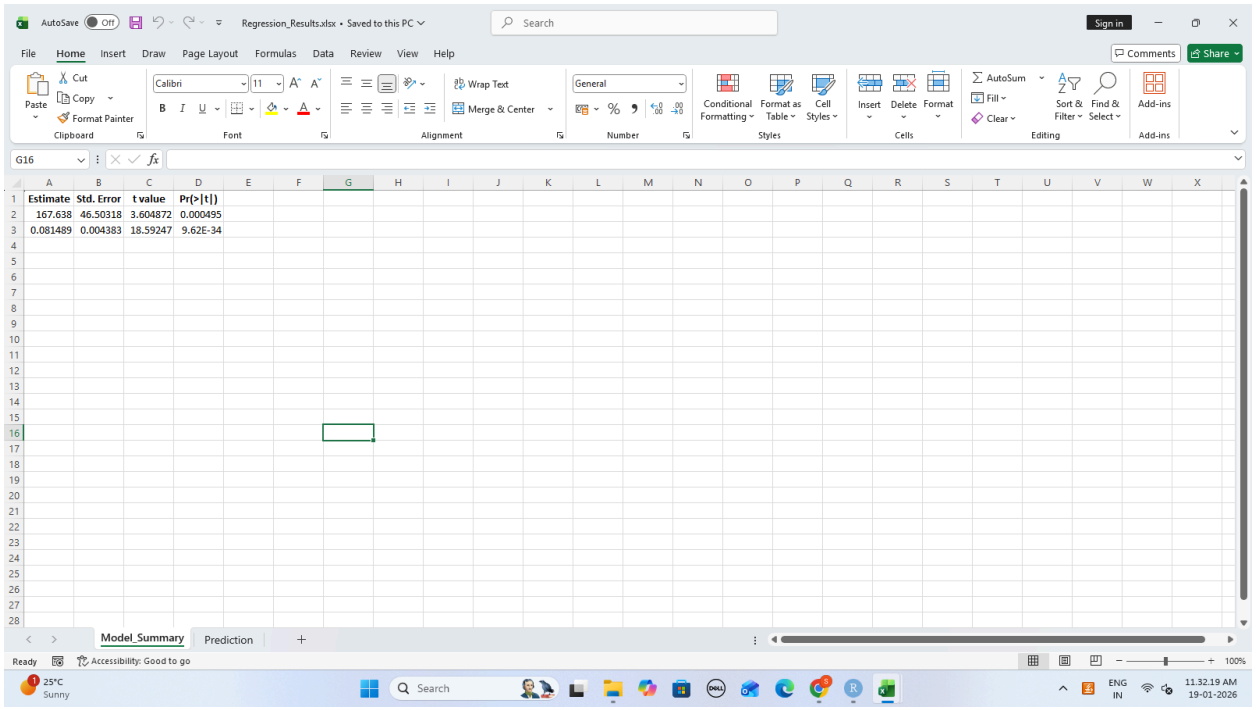
```
# Excel export
library(writexl)

write_xlsx(
  list(
    Model_Summary = model_summary,
    Prediction = prediction_df
  ),
  "C:/Users/itlab/Downloads/Regression_Results.xlsx"
)
```



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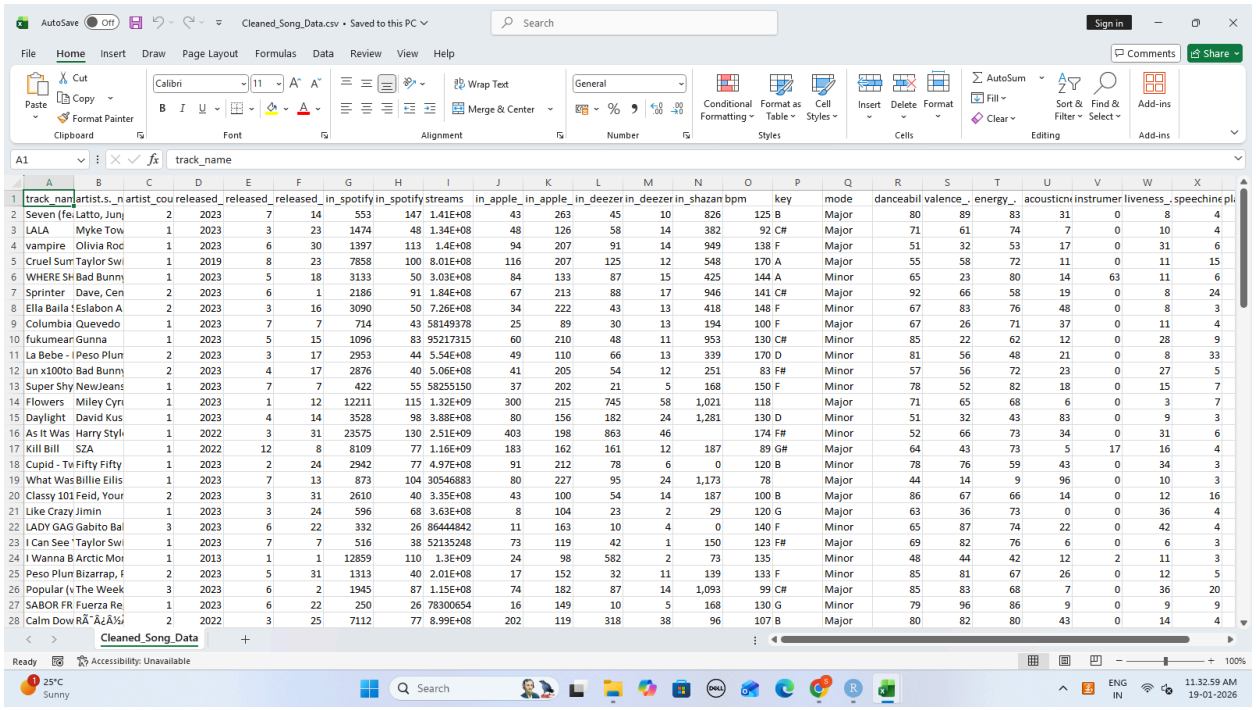
```
# Cleaned dataset export
write.csv(Song,
          "C:/Users/itlab/Downloads/Cleaned_Song_Data.csv",
          row.names = FALSE)
```



track_nan	artist.s._n	artist_cou	released_	released_	released_	in_spotify	in_spotify	streams	in_apple_	in_apple_	in_deezer	in_deezer	in_shazan	bpm	key	mode	danceabil	valence_.	energy_.	acousticn	instrumer	liveness_	speechine	pl
Seven (fe	Latto, Jun	2	2023	7	14	553	147	1.41E+08	43	263	45	10	826	125	B	Major	80	89	83	31	0	8	4	
LALA	Myke Tow	1	2023	3	23	1474	48	1.34E+08	48	126	58	14	382	92	C#	Major	71	61	74	7	0	10	4	
vampire	Olivia Rod	1	2023	6	30	1397	113	1.4E+08	94	207	91	14	949	138	F	Major	51	32	53	17	0	31	6	
Cruel Sum	Taylor Swi	1	2019	8	23	7858	100	8.01E+08	116	207	125	12	548	170	A	Major	55	58	72	11	0	11	15	
WHERE SH	Bad Bunny	1	2023	5	18	3133	50	3.03E+08	84	133	87	15	425	144	A	Minor	65	23	80	14	63	11	6	
Sprinter	Dave, Cen	2	2023	6	1	2186	91	1.84E+08	67	213	88	17	946	141	C#	Major	92	66	58	19	0	8	24	
Ella Baila	Eslabon A	2	2023	3	16	3090	50	7.26E+08	34	222	43	13	418	148	F	Minor	67	83	76	48	0	8	3	
Columbia	Quevedo	1	2023	7	7	714	43	58149378	25	89	30	13	194	100	F	Major	67	26	71	37	0	11	4	
fukumean	Gunna	1	2023	5	15	1096	83	95217315	60	210	48	11	953	130	C#	Minor	85	22	62	12	0	28	9	
La Bebe -	Peso Plun	2	2023	3	17	2953	44	5.54E+08	49	110	66	13	339	170	D	Minor	81	56	48	21	0	8	33	
un x100to	Bad Bunny	2	2023	4	17	2876	40	5.06E+08	41	205	54	12	251	83	F#	Minor	57	56	72	23	0	27	5	
Super Shy	NewJeans	1	2023	7	7	422	55	58255150	37	202	21	5	168	150	F	Minor	78	52	82	18	0	15	7	
Flowers	Miley Cyr	1	2023	1	12	12211	115	1.32E+09	300	215	745	58	1,021	118		Major	71	65	68	6	0	3	7	
Daylight	David Kus	1	2023	4	14	3528	98	3.88E+08	80	156	182	24	1,281	130	D	Minor	51	32	43	83	0	9	3	
As It Was	Harry Styl	1	2022	3	31	23575	130	2.51E+09	403	198	863	46		174	F#	Minor	52	66	73	34	0	31	6	
Kill Bill	SZA	1	2022	12	8	8109	77	1.16E+09	183	162	161	12	187	89	G#	Major	64	43	73	5	17	16	4	
Cupid - Tw	Fifty Fifty	1	2023	2	24	2942	77	4.97E+08	91	212	78	6	0	120	B	Minor	78	76	59	43	0	34	3	
What Was	Billie Eilis	1	2023	7	13	873	104	30546883	80	227	95	24	1,173	78		Major	44	14	9	96	0	10	3	
Classy 101	Feid, Your	2	2023	3	31	2610	40	3.35E+08	43	100	54	14	187	100	B	Major	86	67	66	14	0	12	16	
Like Crazy	Jimin	1	2023	3	24	596	68	3.63E+08	8	104	23	2	29	120	G	Major	63	36	73	0	0	36	4	
LADY GAG	Gabito Bal	3	2023	6	22	332	26	86444842	11	163	10	4	0	140	F	Minor	65	87	74	22	0	42	4	
I Can See	Taylor Swi	1	2023	7	7	516	38	52135248	73	119	42	1	150	123	F#	Major	69	82	76	6	0	6	3	
I Wanna B	Arctic Mor	1	2013	1	1	12859	110	1.3E+09	24	98	582	2	73	135		Minor	48	44	42	12	2	11	3	
Peso Plun	Bizarrap, F	2	2023	5	31	1313	40	2.01E+08	17	152	32	11	139	133	F	Minor	85	81	67	26	0	12	5	
Popular (v	The Week	3	2023	6	2	1945	87	1.15E+08	74	182	87	14	1,093	99	C#	Major	85	83	68	7	0	36	20	
SABOR FR	Fuerza Re	1	2023	6	22	250	26	78300654	16	149	10	5	168	130	G	Minor	79	96	86	9	0	9	9	
Calm Dow	RÃ¯Ã¡Ã½	2	2022	3	25	7112	77	8.99E+08	202	119	318	38	96	107	B	Major	80	82	80	43	0	14	4	

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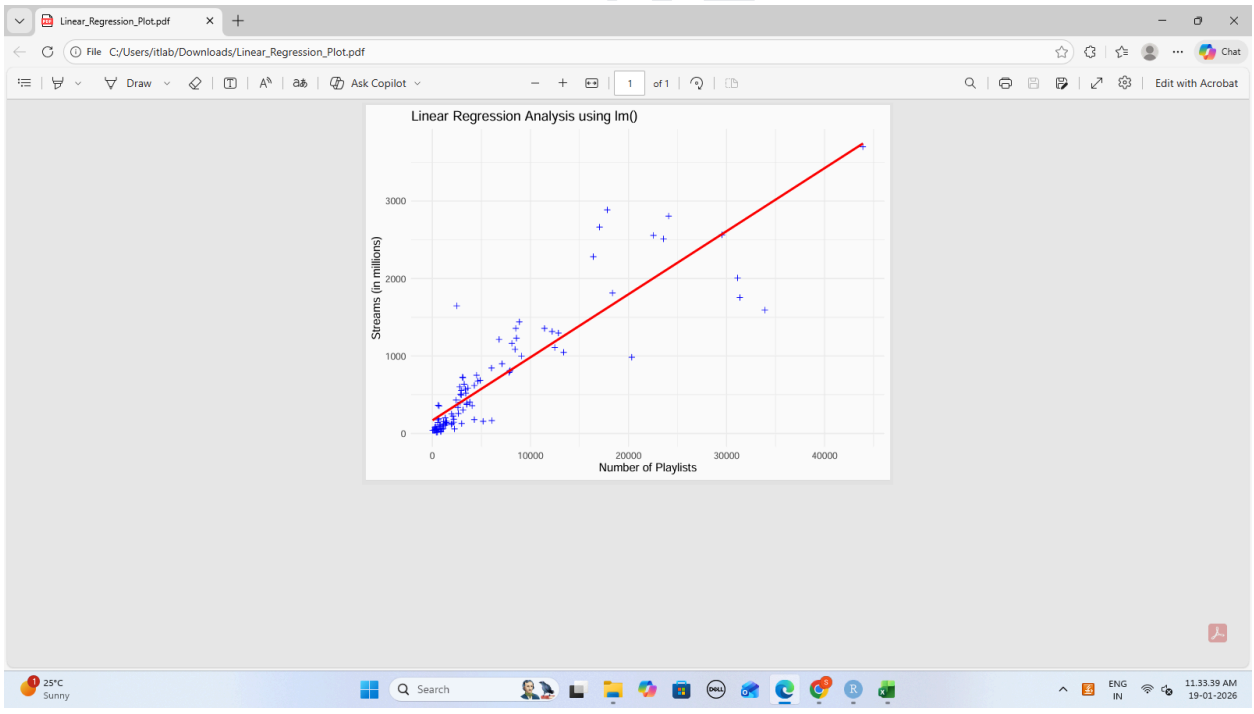
```
library(ggplot2)
# Plot export (PDF)
pdf("C:/Users/itlab/Downloads/Linear_Regression_Plot.pdf",
    width = 7, height = 5)

ggplot(Song, aes(x = playlist, y = streams_million)) +
  geom_point(color = "blue", shape = 3) +
  geom_smooth(method = "lm", se = FALSE, color = "red") +
  labs(
    title = "Linear Regression Analysis using lm()",
    x = "Number of Playlists",
    y = "Streams (in millions)"
  ) +
  theme_minimal()

dev.off()
```



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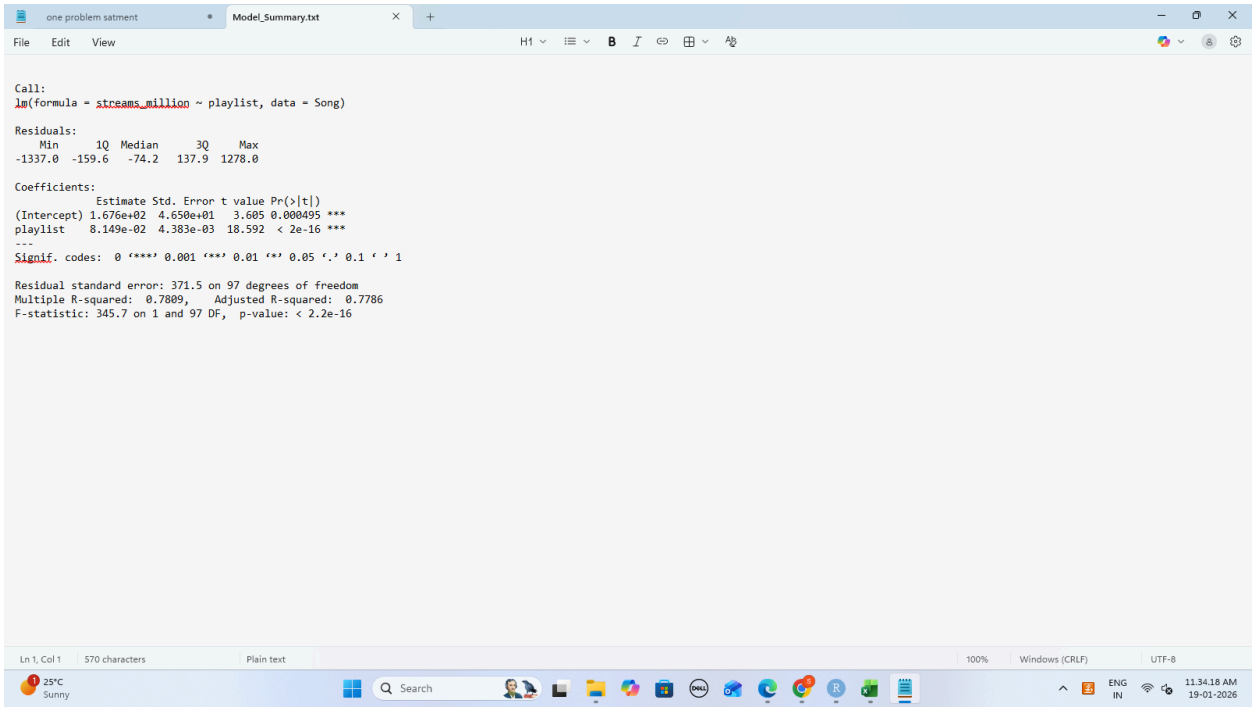
```
# Model summary to text file
sink("C:/Users/itlab/Downloads/Model_Summary.txt")
summary(model)
sink()
```



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