Profit Prediction for Startups

To find following the Machine Learning Regression method using r2 value

1. **Multiple Linear Regression**

   R2 value = 0.93

2. **Support Vector Machine (SVM)**

   R2 values for different Kernel and C,

#	Hyper Parameter	Linear	Poly	RBF (Default)	Sigmoid	Precomputed
1	C=0.10	-0.0573	-0.0574	-0.0574	-0.0574	Must be square matrix 35x5 not supported
2	C=1.0	-0.0556	-0.0571	-0.0574	-0.0572	
3	C=10	-0.0396	-0.0536	-0.0568	-0.0547	
4	C=100	0.1064	-0.0198	-0.0507	-0.0304	
5	C=1000	0.7802	0.2661	0.0067	0.1850	
6	C=2000	0.8767	0.4810	0.0675	0.3970	
7	C=3000	0.8956	0.6370	0.1232	0.5913	

   The **SVM Regression** use R2 value (Nonlinear (rbf) & C3000) = 0.8956

3. **Decision Tree**

#	Criterion	Max Features	Splitter	R Value
1	friedman_mse	log2	best	0.1040
2	friedman_mse	log2	random	0.1040
3	friedman_mse	sqrt	random	0.5528
4	friedman_mse	sqrt	best	0.5491
5	squared_error	log2	best	-0.5415
6	squared_error	log2	random	0.7240
7	squared_error	sqrt	random	0.9218
8	squared_error	sqrt	best	0.9263
9	absolute_error	log2	best	0.6790
10	absolute_error	log2	random	0.5058
11	absolute_error	sqrt	random	0.7431
12	absolute_error	sqrt	best	0.2380
13	poisson	log2	best	0.7010
14	poisson	log2	random	-0.4933
15	poisson	sqrt	random	0.4681
16	poisson	sqrt	best	0.8708

   The **Decision Tree** use R2 value (squared_error, sqrt, best) = 0.8956