



Data Collection and Preprocessing Phase

Date	24 June 2025
Team ID	SWUID20250176341
Project Title	Machine Learning Approach for Employee Performance Prediction
Maximum Marks	6 Marks

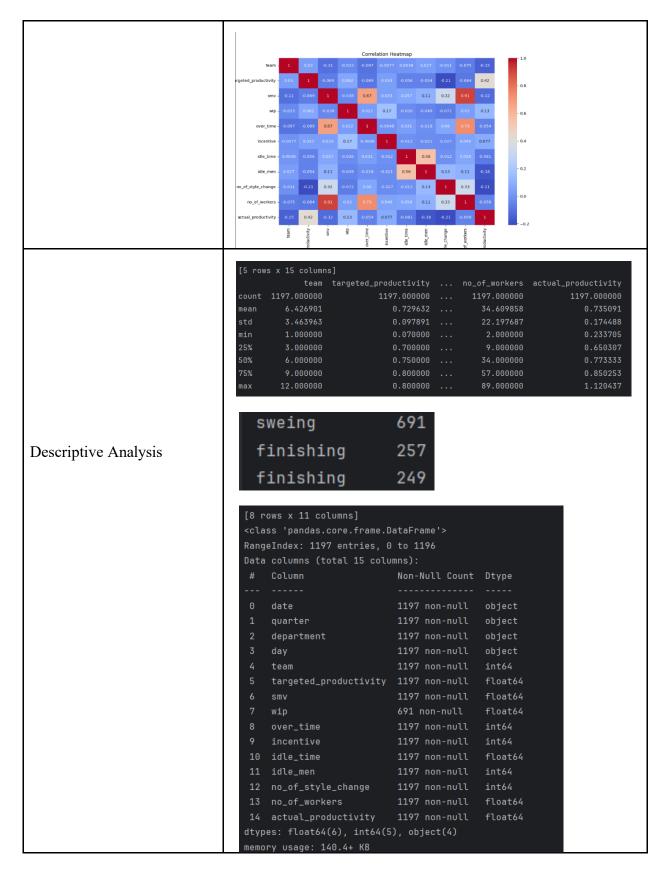
Data Exploration and Preprocessing Report

Dataset variables will be statistically analyzed to identify patterns and outliers, with Python employed for preprocessing tasks like normalization and feature engineering. Data cleaning will address missing values and outliers, ensuring quality for subsequent analysis and modeling, and forming a strong foundation for insights and predictions.

quarter	Ve solution of the second of t	statis	tics:		G wi 26.16 3.94 11.41 11.41 25.9 25.9 3.94	H 1108 968 968 1170 984	rer_time inc. 7080 960 3660 1920 6720	J entive idle 98 0 50 50 50	K time idle_ 0 0 0 0 0 0	L	M _of_styl no 0 0 0 0	59 0 8 30.5 30.5 56 0	O P ctual productivity 9.940725 0.8865 0.80057 0.80057
quarter #### Quarter1	departments sweing finishing sweing sweing sweing sweing sweing finishing sweing sweing sweing sweing	Thursday	8 1 11 12 6 7 2	0.8 0.75 0.8 0.8 0.8 0.8	26.16 3.94 11.41 11.41 25.9 25.9 3.94	968 968 1170	7080 960 3660 3660 1920 6720	98 0 50 50	time idle_ 0 0 0 0	0 0 0 0	_of_styl no 0 0 0 0	_of_wo ad 59 0 8 30.5 30.5 56 0	ctual_productivity 0.940725 0.8865 0.80057 0.80057
#### Quarter1	sweing finishing sweing sweing sweing sweing finishing sweing sweing	Thursday Thursday Thursday Thursday Thursday Thursday Thursday Thursday	8 1 11 12 6 7 2	0.8 0.75 0.8 0.8 0.8 0.8	26.16 3.94 11.41 11.41 25.9 25.9 3.94	968 968 1170	7080 960 3660 3660 1920 6720	98 0 50 50	0 0 0 0	0 0 0 0	0 0 0 0 0	59 0 8 30.5 30.5 56 0	0.940725 0.8865 0.80057 0.80057
#### Quarter1	sweing sweing sweing sweing finishing sweing sweing	Thursday Thursday Thursday Thursday Thursday Thursday	11 12 6 7 2	0.8 0.8 0.8 0.8	11.41 11.41 25.9 25.9 3.94	968 1170	3660 3660 1920 6720	50 50 50	0 0 0	0 0	0 0	30.5 30.5 56 0	0.80057 0.80057
#### Quarter1	sweing sweing sweing finishing sweing sweing	Thursday Thursday Thursday Thursday Thursday	12 6 7 2 3	0.8 0.8 0.8 0.75	11.41 25.9 25.9 3.94	968 1170	3660 1920 6720	50 50	0	0	0	30.5 56 0	0.80057
#### Quarter1 #### Quarter1 #### Quarter1 #### Quarter1 #### Quarter1 #### Quarter1	sweing sweing finishing sweing sweing	Thursday Thursday Thursday Thursday	6 7 2 3	0.8 0.8 0.75	25.9 25.9 3.94	1170	1920 6720	50	0	0	0	56 0	
#### Quarter1 #### Quarter1 #### Quarter1 #### Quarter1	sweing finishing sweing sweing	Thursday Thursday Thursday	7 2 3	0.8 0.75	25.9 3.94		6720						\.800382
### Quarter1 ### Quarter1 ### Quarter1 #### Quarter1	finishing sweing sweing	Thursday Thursday	2	0.75	3.94	984		38	0	0	0		
#### Quarter1 #### Quarter1 #### Quarter1	sweing sweing	Thursday	3							-	U	56 0	0.800125
#### Quarter1 #### Quarter1	sweing			0.75			960	0	0	0	0	8 0	0.755167
### Quarter1		Thursday			28.08	795	6900	45	0	0	0	57.5 0	0.753683
	sweing		2	0.75	19.87	733	6000	34	0	0	0	55 0	0.753098
#### Quarter1		Thursday	1	0.75	28.08	681	6900	45	0	0	0		0.750428
		Thursday	9	0.7	28.08	872	6900	44	0	0	0		0.721127
#### Quarter1		Thursday	10	0.75	19.31	578	6480	45	0	0	0		0.712205
#### Quarter1		Thursday	5	8.0	11.41	668	3660	50	0	0	0		0.707046
													0.705917
	_										-		0.676667
													0.593056
													0.540729
						861			-	-	-		0.52118
	_								-	-	-		0.436326
											-		0.988025
													0.956271
													0.945278
						772							
man Quarter1	awenig	Jaturuay	1	0.0	20.00	112	0300	30	U	V	U	30.3	.000123
***	### Quarter1	### Quarter1 finishing ### Quarter1 finishing ### Quarter1 finishing ### Quarter1 finishing ### Quarter1 sweing ### Quarter1 finishing	### Quarter! finishing Thursday #### Quarter! finishing Thursday ### Quarter! finishing Thursday ### Quarter! finishing Thursday #### Quarter! finishing Thursday #### Quarter! finishing Thursday #### Quarter! finishing Thursday #### Quarter! finishing Saturday	### Quarter1 finishing Thursday 10 ### Quarter1 finishing Thursday 8 ### Quarter1 finishing Thursday 7 #### Quarter1 finishing Thursday 7 ### Quarter1 finishing Thursday 11 ### Quarter1 finishing Thursday 11 #### Quarter1 finishing Saturday 4 ### Quarter1 finishing Saturday 11 #### Quarter1 finishing Saturday 9 #### Quarter1 finishing Saturday 9 #### Quarter1 finishing Saturday 1 #### Quarter1 finishing Saturday 1 #### Quarter1 finishing Saturday 1 ####################################	### Quarter1 finishing Thursday 10 0.65 ### Quarter1 finishing Thursday 8 0.75 ### Quarter1 finishing Thursday 4 0.75 ### Quarter1 finishing Thursday 7 0.8 ### Quarter1 swing Thursday 4 0.65 ### Quarter1 finishing Thursday 11 0.7 ### Quarter1 finishing Saturday 4 0.8 ### Quarter1 finishing Saturday 11 0.75 #### Quarter1 finishing Saturday 9 0.8 #### Quarter1 finishing Saturday 9 0.8 #### Quarter1 finishing Saturday 1 0.8 #### Quarter1 finishing Saturday 1 0.8	### Quarter1 finishing Thursday 10 0.65 3.94 ### Quarter1 finishing Thursday 8 0.75 2.9 ### Quarter1 finishing Thursday 4 0.75 3.94 ### Quarter1 finishing Thursday 7 0.8 2.9 ### Quarter1 finishing Thursday 4 0.65 23.69 ### Quarter1 finishing Thursday 11 0.7 4.15 ### Quarter1 finishing Saturday 4 0.8 4.15 ### Quarter1 finishing Saturday 9 0.8 4.15 ### Quarter1 finishing Saturday 9 0.8 4.15 ### Quarter1 finishing Saturday 1 0.75 3.94 ### Quarter1 finishing Saturday 1 0.8 3.94 ### Quarter1 finishing Saturday 1 0.8 3.94 ### Quarter1 finishing Saturday 1 0.8 3.94 #### Quarter1 finishing Saturday 1 0.8 3.94 #### Quarter1 finishing Saturday 1 0.8 3.94 #### Quarter1 finishing Saturday 1 0.8 3.94	### Quarter1 finishing Thursday 10 0.65 3.94 ### Quarter1 finishing Thursday 8 0.75 3.94 ### Quarter1 finishing Thursday 4 0.75 3.94 ### Quarter1 finishing Thursday 7 0.8 2.9 ### Quarter1 finishing Thursday 4 0.65 23.69 861 ### Quarter1 finishing Thursday 11 0.7 4.15 ### Quarter1 finishing Sturday 4 0.8 4.15 #### Quarter1 finishing Sturday 4 0.8 4.15 #### Quarter1 finishing Sturday 9 0.8 3.94 #### Quarter1 finishing Sturday 9 0.8 3.94 ######## Quarter1 finishing Sturday 1 0.8 3.94 ####################################	### Quarter1 finishing Thursday 10 0.65 3.94 960 ### Quarter1 finishing Thursday 8 0.75 3.94 2160 ### Quarter1 finishing Thursday 4 0.75 3.94 2160 ### Quarter1 finishing Thursday 7 0.8 2.9 960 ### Quarter1 finishing Thursday 4 0.65 23.69 861 7200 ### Quarter1 finishing Thursday 11 0.7 4.15 1440 ### Quarter1 finishing Saturday 4 0.8 4.15 6600 #### Quarter1 finishing Saturday 11 0.75 2.9 5640 #### Quarter1 finishing Saturday 9 0.8 4.15 960 #### Quarter1 finishing Saturday 9 0.8 4.15 960 ### Quarter1 finishing Saturday 1 0.8 3.94 960	### Quarter1 finishing Thursday 10 0.65 3.94 960 0 ### Quarter1 finishing Thursday 8 0.75 2.9 960 0 ### Quarter1 finishing Thursday 4 0.75 3.94 2160 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 ### Quarter1 finishing Thursday 1 0.65 23.69 861 7200 0 ### Quarter1 finishing Thursday 1 10.7 4.15 1440 0 ### Quarter1 finishing Saturday 4 0.8 4.15 6600 0 #### Quarter1 finishing Saturday 11 0.75 2.9 5640 0 #### Quarter1 finishing Saturday 9 0.8 4.15 960 0 #### Quarter1 finishing Saturday 3 0.75 3.94 1560 0 ### Quarter1 finishing Saturday 1 10.8 3.94 960 0	### Quarter1 finishing Thursday 10 0.65 3.94 960 0 0 ### Quarter1 finishing Thursday 8 0.75 2.9 960 0 0 ### Quarter1 finishing Thursday 4 0.75 3.94 2160 0 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 ### Quarter1 finishing Thursday 4 0.65 23.69 861 7200 0 0 ### Quarter1 finishing Thursday 11 0.7 4.15 1440 0 0 ### Quarter1 finishing Sturday 4 0.8 4.15 6600 0 0 ### Quarter1 finishing Sturday 11 0.75 2.9 5640 0 0 #### Quarter1 finishing Saturday 11 0.75 2.9 5640 0 0 #### Quarter1 finishing Saturday 9 0.8 4.15 960 0 0 #### Quarter1 finishing Saturday 3 0.75 3.94 1560 0 0 #### Quarter1 finishing Saturday 1 0.8 3.94 960 0 0	### Quarter1 finishing Thursday 10 0.65 3.94 960 0 0 0 0 ### Quarter1 finishing Thursday 8 0.75 2.9 960 0 0 0 0 0 ### Quarter1 finishing Thursday 4 0.75 3.94 2160 0 0 0 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 0 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 0 0 ### Quarter1 finishing Thursday 11 0.7 4.15 1440 0 0 0 0 ### Quarter1 finishing Thursday 11 0.7 4.15 1440 0 0 0 0 ### Quarter1 finishing Saturday 4 0.8 4.15 6600 0 0 0 0 #### Quarter1 finishing Saturday 11 0.75 2.9 5640 0 0 0 0 ############################	### Quarter1 finishing Thursday 10 0.65 3.94 960 0 0 0 0 0 ### Quarter2 finishing Thursday 8 0.75 2.9 960 0 0 0 0 0 ### Quarter1 finishing Thursday 4 0.75 3.94 2160 0 0 0 0 0 ### Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 0 0 0 0 ### Quarter1 finishing Thursday 4 0.65 23.69 861 7200 0 0 0 0 0 ### Quarter1 finishing Thursday 11 0.7 4.15 1440 0 0 0 0 0 ### Quarter1 finishing Sturday 4 0.8 4.15 6600 0 0 0 0 0 #### Quarter1 finishing Sturday 4 10.8 4.15 6600 0 0 0 0 0 #######################	### Quarter1 finishing Thursday 10 0.65 3.94 960 0 0 0 0 0 8.80 mm Quarter1 finishing Thursday 8 0.75 2.9 960 0 0 0 0 0 8.80 mm Quarter1 finishing Thursday 4 0.75 3.94 2160 0 0 0 0 0 8.80 mm Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 0 0 0 8 80 mm Quarter1 finishing Thursday 7 0.8 2.9 960 0 0 0 0 0 8 80 mm Quarter1 sinishing Thursday 1 0.65 23.69 861 7200 0 0 0 0 0 0 60 mm Quarter1 sinishing Thursday 1 1 0.7 4.15 1440 0 0 0 0 0 12 0 mm Quarter1 finishing Saturday 4 0.8 4.15 6600 0 0 0 0 0 20 20 mm Quarter1 finishing Saturday 11 0.75 2.9 5640 0 0 0 0 0 17 mm Quarter1 finishing Saturday 11 0.75 2.9 5640 0 0 0 0 0 17 mm Quarter1 finishing Saturday 1 1 0.75 2.9 5640 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.75 2.9 5640 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.75 2.9 5640 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.75 2.9 5640 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 1560 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 960 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 960 0 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 960 0 0 0 0 0 0 0 8 8 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 960 0 0 0 0 0 0 0 8 8 0 0 mm Quarter1 finishing Saturday 1 1 0.8 3.94 960 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0











Outliers and Anomalies	-		
Data Preprocessing Code Screenshots			
Loading Data	<pre># Reading CSv file df = pd.read_csv(r"D:\Work\garments_worker_productivity.csv") print(df.head())</pre>		
Handling Missing Data	<pre># Checking for Null Values print(df.isnull().sum()) # Handling Date & Department Columns df['department'] = df['department'].str.strip() df = df.drop(labels: ['date'], axis=1) # Handling Categorical Values df = pd.get_dummies(df, drop_first=True) # Drop rows with any NaN values df.dropna(inplace=True)</pre>		
Save Processed Data	- Task Completed		