```
import pandas as pd
import numpy as np
import matplotlib as plot
```

```
T20wpd.read_csv('D:\ACCEPK\Crosstrees 2\CYPHER FOR MANAGERS\data set\ipl\ t20 world cup 2021.csv')
```

T20wpd.

T20

	match no.	team_1	team_2	stage	Winner toss	Toss_decision	time	venue	avg_temperature	best_bowler
0	Match_1	Australia	SouthAfrica	Group_stage	Australia	Fielding	afternoon	Abu_Dhabi	30	Ish_Vachewood
1	Match_2	England	Ireland	Group_stage	England	Fielding	evening	Dubai	33	Adil_Rashid
2	Match_3	Srilanka	Bangladesh	Group_stage	Srilanka	Fielding	afternoon	Sharjah	34	Shakib_al_Hasan
3	Match_4	Pakistan	India	Group_stage	Pakistan	Fielding	evening	Dubai	34	Shaheen_Afridi
4	Match_5	Afghanistan	Scotland	Group_stage	Afghanistan	Batting	evening	Sharjah	33	Mujeeb_ur_Rehman
...	...	...	...	...	...	...	...	...	...	...
29	Match_29	Pakistan	Scotland	Group_stage	Pakistan	Batting	evening	Sharjah	27	Shadab_Khan
30	Match_30	India	Namibia	Group_stage	India	Fielding	evening	Dubai	28	Ravindra_Jadeja
31	Match_31	New_Zealand	England	Semi_Final	New_Zealand	Fielding	evening	Abu_Dhabi	28	Liam_Livingstone
32	Match_32	Australia	Pakistan	Semi_Final	Australia	Fielding	evening	Dubai	29	Shadab_Khan
33	Match_33	Australia	New_Zealand	Final	Australia	Fielding	evening	Dubai	26	Ish_Vachewood

```
T20.isna().sum()
```

```
match no.        0
team_1           0
team_2           0
stage            0
Winner_toss      0
Toss_decision    0
time             0
venue            0
avg_temperature  0
bowl_innings     0
bowling_ave      0
bowl_strike_rate 0
most_individual_wickets 0
economy          0
bowl_bowler_country 0
best_batter      0
C_ball           0
most_individual_scores 0
strike_rate      0
best_batter_team 0
Winner           0
target_achieved  0
Player_of_the_match 0
Toss_decision    0
dtype: int64
```

```
T20FOUPDATE.pivot_table(T20,index=["Toss_decision"],columns=["venue"],"time"],values=["target_achieved",appfunc
```

```
-------------------------------------------------------------------------------
Traceback (most recent call last)
<ipykernel.input-251-4417a5e6f00>in <module>
----> 1 T20FOUPDATE.pivot_table(T20,index=["Toss_decision"],columns=["venue","time"],values=["target_achieved"
,aggfunc=["mean"])
TypeError: pivot_table() got multiple values for argument 'values'
```

```
T20FOUPDATE
```

	0 land	Player of the match	Toss decision	Winner toss	avg_temperature	best_batter team	best bowler	be
best_batter	**Winner**							
Aaron_Finch	**Australia**	1	1	1	1	1	1	1
Aiden_Markram	**Australia**	1	1	1	1	1	1	1
Babar_Azam	**Pakistan**	2	2	2	2	2	2	2
Charith_Asalanka	**Srilanka**	1	1	1	1	1	1	1
Daryl_Mitchell	**New_Zealand**	2	2	2	2	2	2	2
...	...	...	...	...	...	...	...	...
Pathum_Nissanka	**Srilanka**	1	1	1	1	1	1	1
Rassie van der Dussen	**SouthAfrica**	1	1	1	1	1	1	1
Rohit_Sharma	**India**	2	2	2	2	2	2	2
Sikandar_Raza	**Srilanka**	1	1	1	1	1	1	1
Temba_Bavuma	**SouthAfrica**	1	1	1	1	1	1	1

```
T20FINAL=T20FOUPDATE.Winner
```

```
T20FINAL
```

```
venue      time       Toss_decision
Abu_Dhabi  afternoon  Batting        3
           evening    Batting        5
           evening    Fielding       1
           evening    Fielding       3
Dubai      afternoon  Batting        4
           evening    Batting        1
           evening    Fielding       4
Sharjah    afternoon  Fielding       4
           evening    Fielding       3
Name: Winner, dtype: int64
```

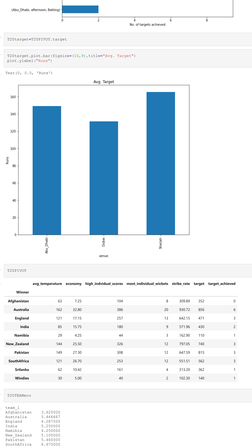
```
import matplotlib.pyplot as plot
T20FINAL.plot.barh(figsize=(10,9),title="T20 ICC WC 2021 Toss Decision")
plot.ylabel("Toss Decision")
plot.xlabel("Number of Teams")
```

Text(0.5, 0, 'Number of Teams')

```
T20FOUPDATE=T20FOUPDATE.most_individual_wickets
```

```
T20wicket=T20FOUPDATE.most_individual_wickets
plot.xlabel("No. of wickets")
```

Text(0.5, 0, 'No. of wickets')



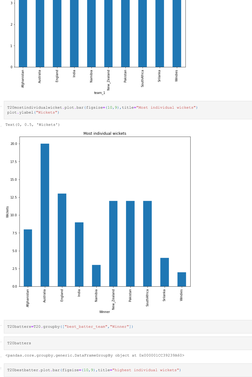

```
T20matchtarget=T20FOUPDATE.target
```

```
T20matchtarget
```

```
venue      time       Toss_decision
Abu_Dhabi  afternoon  Batting        161
           afternoon  Fielding       172
           evening    Batting        190
           evening    Fielding       173
Dubai      afternoon  Fielding       173
           evening    Batting        168
           evening    Fielding       170
Sharjah    afternoon  Fielding       172
           evening    Batting        191
           evening    Fielding       173
Name: target, dtype: int64
```

```
T20matchtarget.plot.barh(figsize=(10,9),title="Highest Target Given")
plot.ylabel("Venue")
```

Text(0.5, 0, 'Runs')




```
T20FOUPDATE=T20FOUPDATE.target_achieved
```

```
T20FOUPDATE=T20FOUPDATE.target_achieved
```

```
venue      time       Toss_decision
Abu_Dhabi  afternoon  Batting        2
           afternoon  Fielding       1
           evening    Batting        1
           evening    Fielding       3
Dubai      afternoon  Fielding       1
           evening    Batting        1
           evening    Fielding       4
Sharjah    afternoon  Fielding       1
           evening    Batting        1
           evening    Fielding       3
Name: target_achieved, dtype: int64
```

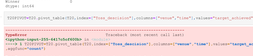
```
T20FOUPDATE=T20FOUPDATE.plot.barh(figsize=(10,9),title="Target achieved")
plot.ylabel("No. of targets achieved")
```

Text(0.5, 0, 'No. of targets achieved')


```
T20target=T20FOUPDATE.target
```

```
T20target.plot.bar(figsize=(10,9),title="Avg. Target")
plot.ylabel("Runs")
```

Text(0.5, 0, 'Runs')




```
T20FOUPDATE
```

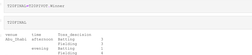
	avg_temperature	economy	high_individual_scores	most_individual_wickets	strike_rate	target	target_achieved
Winner							
Afghanistan	63	7.25	104	8	309.89	352	0
Australia	162	32.80	386	20	930.72	856	6
England	121	17.16	257	13	642.15	471	3
India	85	15.75	181	9	571.96	430	2
Namibia	29	4.25	44	3	162.90	110	1
New_Zealand	164	25.50	326	12	797.95	746	3
Pakistan	149	27.30	308	12	647.59	815	3
SouthAfrica	57	28.78	253	13	331.51	562	1
Srilanka	62	10.42	161	4	313.20	362	1
Windies	30	5.00	40	2	152.30	140	1

```
T20TOWinner
```

```
team_1
Afghanistan  3.625000
Australia    5.000000
England      4.287500
India        3.812500
Namibia      4.250000
New_Zealand  5.100000
Pakistan     4.875000
SouthAfrica  4.275000
Srilanka     5.210000
Windies      5.000000
Name: economy, dtype: float64
```

```
T20TOWinner.plot.barh(figsize=(10,9),title="avg economy")
plot.ylabel("Runs")
```

Text(0.5, 0.5, 'Runs')




```
T20mostindividualwicket.plot.barh(figsize=(10,9),title="Most individual wickets")
plot.ylabel("Winner")
```

Text(0.5, 0.5, 'Winner')

```
T20batters=T20.groupby(["best_batter_team","Winner"])
```

```
T20batters
```

```
<pandas.core.groupby.generic.DataFrameGroupBy object at 0x000001C2782B6A0>
```

```
T20bestbatter.plot.barh(figsize=(10,9),title="Highest individual wicket")
```