ARMY PUBLIC SCHOOL, AHMEDNAGAR

A Project

On

THE GAMING NEMESIS

For

AISSCE 2021-2022 Examination

As a part of Informatics Practices Course

(065)

Submitted by:

Sahil Garje

Class XII A1

Board No. 15600397

Under the Guidance of

Mrs. Revati Mulay

ARMY PUBLIC SCHOOL

AHMEDNAGAR

CERTIFICATE

NAME: **Sahil Garje**

CLASS: **XII-A1**

BOARD NO: **15600397**

This is to certify that the project work entitled 'The Gaming Nemesis' has been carried out successfully during the academic year 2021-2022 in the partial fulfilment for course study for the subject Informatics Practices (065) as per the syllabus prescribed by CBSE.

Mrs REVATI MULAY
(Project Guide)

Mrs. NUTAN MISHRA
(Principal)

External Examiner: _____

INDEX

ACKNOWLEDGEMENT

I take the opportunity to express my profound gratitude and deep regards to my guide Mrs Revati Mulay for her guidance, monitoring and constant encouragement throughout the course of this project. The blessing, help and guidance given by her shall carry me a long way in the journey of life on which I am about to embark.

I also take the opportunity to express deep sense of gratitude to the principal Mrs Nutan Mishra for her coordinal support, valuable information and guidance, which helped me in completing this task through various stages.

I am obliged to staff members, for the valuable information provided by them in their respective field. I am grateful for their cooperation during the period of my assignment. Lastly, I thank almighty, my parents, my brother and friends for their constant encouragement without which this assignment would not be possible.

Sahil Garje

INTRODUCTION

◈ This Project has been made to : A}Learn

about the types of PC games

B}Knowing the System Requirements of different types of PC games

C}Giving out a list of low/high end games

D}Giving Developer Options (to edit option C})

E}Display Graphs of Top gaming companies and the most popular games.

PYTHON CODING AND CSV FILE

```
 import pandas as pd import

numpy as np import time

import matplotlib.pyplot as plt



df =pd.DataFrame() csv_file =

"D:\\Documents\\Informatics

Practices\\TheGamingNemesis\\highend.csv"

csv_file2 = "D:\\Documents\\Informatics

Practices\\TheGamingNemesis\\lowend.csv"

csv_file3 = "D:\\Documents\\Informatics

Practices\\TheGamingNemesis\\top6games.csv"



def introduction():

msg='''

                        NAMASTE!!! 🙏



Gaming🎮 is just like living a whole different life

than your 'usual'.Thanks to the ever increasing

demand , gaming has become a job for many .. a

'gamer job'.

Now there's so much in gaming to tell about .. so

many gaming genresand such contrasting system

requirements that it is hard for newbie gamers to

cope up with.

In this project i will use the help of Python🐍 (csv
```

and matplotlib) and try to help newbiegamers and PC enthusiasts to give as much information as i can on gaming.

The whole project is divided into four major parts i.e. reading, analysis, visualization and editing. All these parts are further divided into menus for easy navigation.

{Nemesis means 'an arch enemy' 🤺 .. this project is called nemesis because it was an enemy to my 'gaming time' 👾}

\n\n\n\n''' for x in msg:

```
    print(x,end='')    time.sleep(0.002)
wait = input('Press any key to continue.....')

def made_by():
  msg='''
      Gaming Nemesis made by   : Sahil Garje
      Roll No                  : 1
      School Name              : Army Public School,Ahmednagar
      session                  : 2021-22

      Thanks for evaluating my Project.
```

```
        \n\n\n
    '''

  for x in msg:       print(x, end='')
time.sleep(0.002)    wait = input('Press any
key to continue.....')

def Digital_Games():
  msg='''
        Types of video games

        1.Action games 😠
        2.Adventure games 🤠
        3.Role-playing games 🐉
        4.Simulation games 🕹
        5.Strategy games 🤔
        6.Sports games 🤾
        7.Puzzle games 🧩
    '''
  for x in msg:
print(x, end='')
time.sleep(0.002)
wait = input('Press
any key to
continue.....')
```

```
def clear():    for x
in range(10):
            print()


def read_csv_file():    df
=pd.read_csv(csv_file)
print(df)


def read_csv_file2():    df2
=pd.read_csv(csv_file2)
   print(df2)


def developer_highend():
df = pd.read_csv(csv_file)
while True:           clear()
         print('\n\nData  Analysis  MENU  ')
print('_'*100)           print('1.  Show Whole
DataFrame\n')                 print('2.  Show
Columns\n')              print('3.  Show Top
Rows\n')               print('4.  Row Bottom
Rows\n')             print('5.  Show Specific
Column\n')              print('6.  Add a New
Record\n')              print('7.  Add a New
Column\n')                print('8.  Delete a
Column\n')                print('9.  Delete a
```

```
Record\n')              print('10.  Exit (Move to
main menu)\n')            ch = int(input('Enter
your  choice:'))                    if  ch  ==  1:
print(df)               wait = input()          if ch
== 2:             print(df.columns)             wait
= input()           if ch == 3:
            n = int(input('Enter Total rows you want
to show :'))              print(df.head(n))
wait = input()          if ch == 4:
            n = int(input('Enter Total rows you want
to show :'))
            print(df.tail(n))
wait = input()          if
ch == 5:
            print(df.columns)              col_name
= input('Enter Column Name that You want to
print : ')              print(df[col_name])
wait = input()          if ch==6:
            a = input('Enter game title :')              b
= input('Enter release date :')              c = input('
Enter publisher :')              d=  input('Enter
size :')              data={'Game Title ':a,'Release
Date':b,'Publisher':c,'Size':d}              df =
df.append(data,ignore_index=True)
```

```
            print(df)
wait=input()            if
ch==7:
            col_name = input('Enter new column
name :')                col_value = int(input('Enter
default          column          value          :'))
df[col_name]=col_value
            print(df)
print('\n\n\n Press any key to
continue....')              wait=input()


        if ch==8:
            col_name =input('Enter column Name to
delete :')              del df[col_name]
print(df)               print('\n\n\n Press any key to
continue....')
            wait=input()


        if ch==9:
            index_no =int(input('Enter the Index
Number that You want to delete :'))
df = df.drop(df.index[index_no])
            print(df)
print('\n\n\n Press any key to
continue....')              wait = input()
```

```
        if ch == 10:
break
def developer_lowend():        df
= pd.read_csv(csv_file2)
while True:            clear()
        print('\n\nData  Analysis  MENU  ')
print('_'*100)             print('1.  Show Whole
DataFrame\n')                  print('2.  Show
Columns\n')                print('3.  Show Top
Rows\n')                print('4.  Row Bottom
Rows\n')               print('5.  Show Specific
Column\n')                print('6.  Add a New
Record\n')                print('7.  Add a New
Column\n')                  print('8.  Delete a
Column\n')                  print('9.  Delete a
Record\n')             print('10.  Exit (Move to
main menu)\n')            ch = int(input('Enter
your  choice:'))                    if  ch  ==  1:
print(df)              wait = input()          if ch
== 2:            print(df.columns)            wait
= input()          if ch == 3:
            n = int(input('Enter Total rows you want
to show :'))              print(df.head(n))
wait = input()          if ch == 4:
            n = int(input('Enter Total rows you want
to show :'))
```

```
            print(df.tail(n))

wait = input()            if

ch == 5:

            print(df.columns)               col_name

= input('Enter Column Name that You want to

print : ')               print(df[col_name])

wait = input()            if ch==6:

a = input('Enter game title :')
b = input('Enter release date :')               c =

  input(' Enter publisher :')               d=

  input('Enter size :')               data={'Game Title

  ':a,'Release Date':b,'Publisher':c,'Size':d}

  df = df.append(data,ignore_index=True)

            print(df)

wait=input()            if

ch==7:

            col_name = input('Enter new column

name :')               col_value = int(input('Enter

default            column            value            :'))

df[col_name]=col_value

            print(df)

print('\n\n\n Press any key to

continue....')               wait=input()



        if ch==8:

            col_name =input('Enter column Name to

delete :')               del df[col_name]
```

```
print(df)                print('\n\n\n Press any key to
continue....')                wait=input()


        if ch==9:
            index_no =int(input('Enter the Index
Number that You want to delete :'))
df = df.drop(df.index[index_no])
            print(df)
print('\n\n\n Press any key to
continue....')                wait = input()


        if ch == 10:
break


def graph():    df =
pd.read_csv(csv_file3)    g =
df.groupby("Name")    x =
df['Name'].unique()    y =
g['Global_Sales'].unique()    plt.pie(y,
labels=x, autopct='% .2f',
startangle=90)
plt.xticks(rotation='vertical')
plt.title("The 6 Biggest games ever!")
plt.show()


def main_menu():
```

```
        clear()
introduction()          while
True:                   clear()
print('MAIN MENU ')
print('_'*100)
print()
print('1.  Types Of
Games\n')


                print('2.  List of High End Games\n')
print('3.  List of Low End Games\n')
print('4. Developer options(high end)\n')
print('5. Developer options(low end)\n')
print('6 Graph of the 6 most selling
games\n')
                print('7.                  Exit\n')
choice  =  int(input('Enter  your  choice  :'))
if                                  choice==1:
Digital_Games()                     wait=input()
ch = int(input('Enter the
gaming genre you want to learn more about:' ))
                        if ch==1:
print(''' Action games are just
that—games where the player is in
control of and at the center of the
action
```

Subgenres:

I]Platformer

Platformer games get their name from the fact that the game's character interacts with platforms (usually running, jumping, or falling) throughout the gameplay

II]Shooter

Shooters let players use weapons to engage in the action, with the goal usually being to take out enemies or opposing players

III]Fighting

Fighting games like Mortal Kombat and Street Fighter II focus the action on combat, and in most cases, hand-to-hand combat

IV]Beat-em up

Beat-em up games, or brawlers, also focus on combat, but instead of facing a single opponent, players face wave after wave of enemies

V]Stealth

Stealth games usually encourage players to engage in the action covertly

''')

if ch==2:

print('''

Adventure games are categorized by the style of gameplay, not the story or content.

Subgenres:

I]Visual novels

Extremely popular in Japan, most visual novels require players to build up character traits or statistics to advance the gameplay

II]Interactive movie

Laserdisc and CD-ROM technology allowed for the introduction of the interactive movie.

III]Real-time 3D

The latest evolution of adventure games is realtime 3D. Instead of pre-rendered scenes, players interact in a real-time 3D video game world

''')

if ch==3:

print('''

Probably the second-most popular game genre, role-playing games, or RPGs, mostly feature medieval or fantasy settings

Subgenres:

I]Action RPG

Action role-playing games take game elements of both action games and action-adventure games

II]MMORPG

MMORPGs involve hundreds of players actively interacting with each other in the same world, and typically, all players share the same or a similar objective.

lll]Rouguelikes

The only other game genre based on the name of the game that inspired it, Rogue was a 2D computer game and dungeon crawler from 1980

''')

if ch==4:

print('''

Games in the simulation genre have one thing in common—they're all designed to emulate real or fictional reality, to simulate a real situation or event

Subgenres:

l]Construction and management simulation

SimCity is the most popular construction and management simulation of all time.

ll]Life simulation

Simulations may allow players to manipulate a character’s genetics or their ecosystem

lll]Vehicle simulation

It’s difficult to rank the most popular vehicle simulation games because sales are equally split between flight simulations and racing simulations

'''')

if ch==5:

print('''

Gameplay is based on traditional strategy board

games, strategy games give players a godlike

access to the world and its resources.

Subgenres:

I]4X

A 4x is any genre of strategy video game whose

four primary goals check these boxes: explore,

expand, exploit, and exterminate

II]Artillery

A general name given to two- or three-player

turnbased games featuring tanks or other soldiers

engaged in combat

III]Multiplayer online

battle arena (MOBA)

Players control a single character in one of two

teams, working together to try and destroy the

other team’s base

'''')

if ch==6:

print('''

Sports games simulate sports like golf, football,

basketball, baseball, and soccer

Subgenres:

I]Team sports

One of the earliest types of video games genres,

team sports games simulate playing a sport

II]Competitive

Fictional sport or competitive games fall into this

category.

III]Sports-based fighting

Rooted firmly in the fighting game and sports

genre, these games include boxing games like

Fight Night and wrestling video games

''')

if ch==7:

print('''

Puzzle or logic games usually take place on a

single screen or playfield and require the player

to solve a problem to advance the action.

Subgenres:

I]Logic game

A logic game requires players to solve a logic

puzzle or navigate a challenge like a maze

II]Trivia game

Like real trivia games, video trivia game players

must answer a question before a timer runs out

''')

wait=input() **if**

choice==2:

```
                read_csv_file()
wait=input()                if
choice==3:
                read_csv_file2()
wait=input()                if
choice==4:
developer_highend()
wait=input()            if choice==5:
developer_lowend()
wait=input()            if choice==6:
graph()                 wait=input()
if choice==7:                   break
clear()     made_by()


main_menu()
```

CSV FILE

I]LOW END:

	A	B	C	D
1	Game Title	Release Date	Publisher	Size
2	Among Us	15-Jun-18	Innersloth	~250 mb
3	Minecraft	18-Nov-11	Mojang	~525 mb
4	Stardew Valley	26-Feb-16	Eric Barone	~500 mb
5	Civilization 5	21-Sep-10	Sid Meier	~8 gb
6	Disco Elysium	15-Oct-19	ZA/UM	~20 gb
7	Undertale	15-Sep-15	Toby Fox 8-4	~200 mb
8	Terraria	16-May-11	Re-Logic	~200 mb
9	Cuphead	29-Sep-17	Studio MDHR	~4 GB
10	Portal 2	21-Apr-11	Valve	~10 GB
11	Game Dev Tycoon	10-Dec-12	Greenheart Games	~100 MB
12	Team Fortress 2	10-Oct-07	Valve	~15 GB
13	PlayerUnknown's Batt	29-Jun-19	PUBG	~3 GB
14	VALORANT	2-Jun-20	Riot Games	~15 GB
15	League Of Legends	7-Oct-08	Riot Games	~8 GB
16	GTA San Andreas	26-Oct-04	Rockstar Games	~5 GB

II]HIGH END:

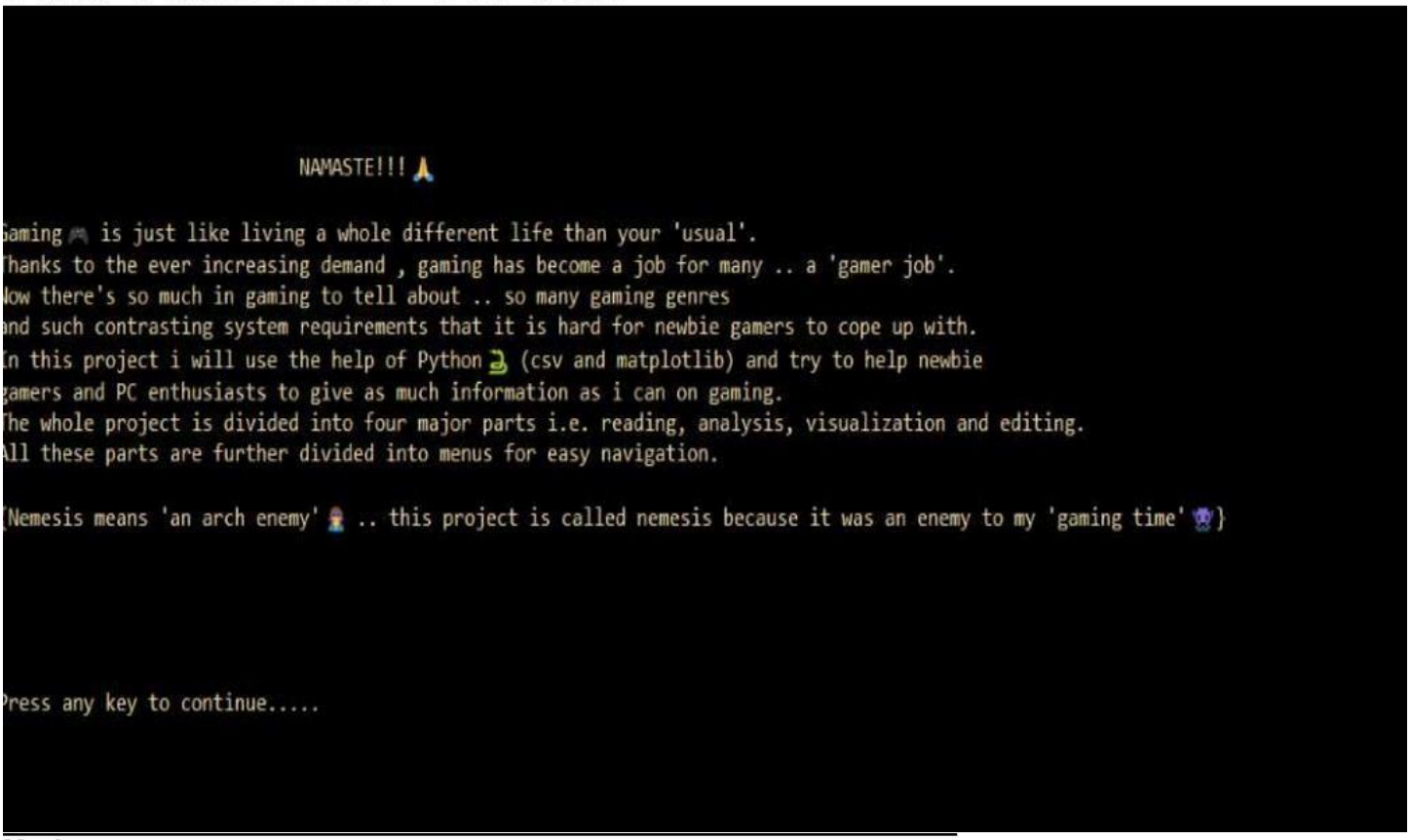
	A	B	C	D
1	Game Title	Release Date	Publisher	Size
2	Grand Theft Auto V	14-Apr-15	Rockstar Games	~100 GBs
3	The Witcher 3: Wild Hunt	30-Aug-16	CDPR	~35 GB
4	Forza Horizon 4	2-Oct-18	Microsoft	~100 GB
5	Assassin's Creed: Valhalla	10-Nov-20	Ubisoft	~50 GB
6	Crysis 3: Remastered	13-Nov-07	Electronic Arts	~20 GB
7	Deus Ex: Mankind Divided	23-Aug-16	Square Enix	~55 GB
8	Shadow of the Tomb Raider	14-Sep-18	Square Enix	~40 GB
9	Kingdom Come: Deliverance	13-Feb-18	Deep Silver	~90 GB
10	Call of Duty: Modern Warfare	25-Oct-19	Activision	~231 GB
11	Red Dead Redemption 2	5-Nov-19	Rockstar Games	~150 GB
12	Cyberpunk 2077	10-Dec-20	CDPR	~70 GB
13	Final Fantasy XV	6-Mar-18	Square Enix	~100 GB
14	Microsoft Flight Simulator	18-Aug-20	Microsoft	~127 GB
15	Metro Exodus	15-Feb-19	Deep Silver	~59 GB
16	Far cry 6	7-Oct-21	Ubisoft	~60 GB

III]TOP 6 GAMES:

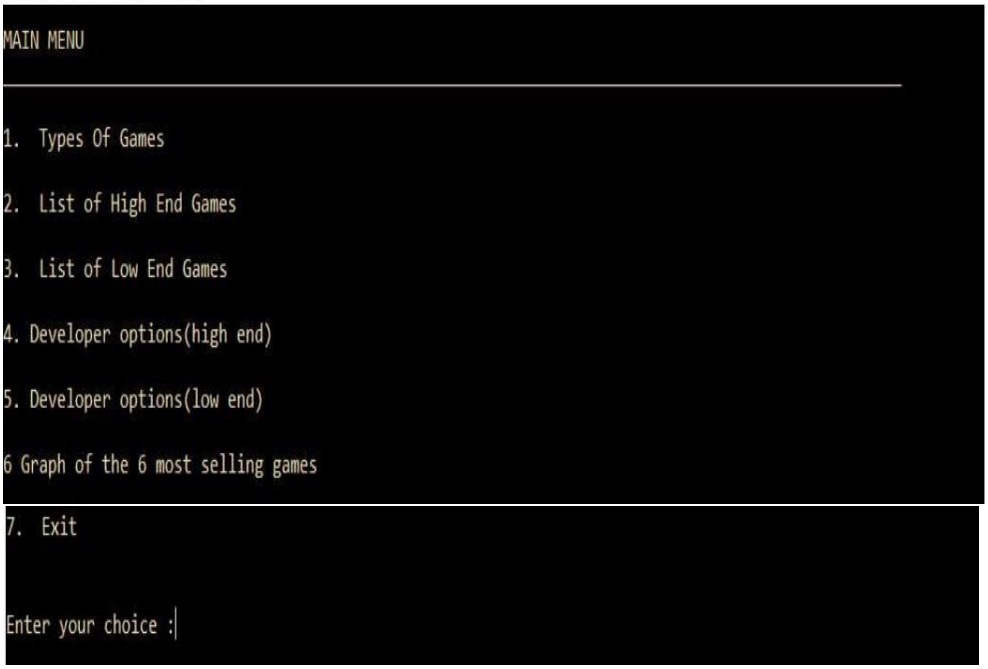
	A	B	C	D
1	Rank	Name	Year	Global_Sales
2	1	Wii Sports	2006	82.74
3	2	Super Mar	1985	40.24
4	3	Mario Kar	2008	35.82
5	4	Wii Sports	2009	33
6	5	Pokemon	1996	31.37
7	6	Tetris	1989	30.26

OUTPUTS

Introduction Screen



Main menu



Option 1(types of games)

```
Enter your choice :1

                Types of video games

                1.Action games
                2.Adventure games
                3.Role-playing games
                4.Simulation games
                5.Strategy games
                6.Sports games
                7.Puzzle games

Press any key to continue.....
```

Option 2(List of high end games)

```
Enter your choice :2
                    Game Title  Release Date       Publisher      Size
0            Grand Theft Auto V    14-Apr-15   Rockstar Games  ~100 GBs
1       The Witcher 3: Wild Hunt    30-Aug-16            CDPR    ~35 GB
2                Forza Horizon 4     2-Oct-18       Microsoft   ~100 GB
3     Assassin's Creed: Valhalla    10-Nov-20         Ubisoft    ~50 GB
4           Crysis 3: Remastered    13-Nov-07  Electronic Arts    ~20 GB
5       Deus Ex: Mankind Divided    23-Aug-16      Square Enix    ~55 GB
6      Shadow of the Tomb Raider    14-Sep-18      Square Enix    ~40 GB
7      Kingdom Come: Deliverance    13-Feb-18      Deep Silver    ~90 GB
8   Call of Duty: Modern Warfare    25-Oct-19       Activision   ~231 GB
9          Red Dead Redemption 2     5-Nov-19   Rockstar Games   ~150 GB
10                Cyberpunk 2077    10-Dec-20            CDPR    ~70 GB
11             Final Fantasy XV     6-Mar-18      Square Enix   ~100 GB
12    Microsoft Flight Simulator    18-Aug-20       Microsoft   ~127 GB
13                  Metro Exodus    15-Feb-19      Deep Silver    ~59 GB
14                   Far cry 6     7-Oct-21         Ubisoft    ~60 GB
```

Option 3(List of low end games)

```
Enter your choice :3
                          Game Title  Release Date         Publisher      Size
0                           Among Us    15-Jun-18        Innersloth  ~250 mb
1                          Minecraft    18-Nov-11             Mojang  ~525 mb
2                     Stardew Valley    26-Feb-16       Eric Barone  ~500 mb
3                     Civilization 5    21-Sep-10           Sid Meier    ~8 gb
4                     Disco Elysium     15-Oct-19               ZA/UM   ~20 gb
5                          Undertale    15-Sep-15       Toby Fox 8-4  ~200 mb
6                          Terraria     16-May-11          Re-Logic   ~200 mb
7                           Cuphead     29-Sep-17        Studio MDHR    ~4 GB
8                          Portal 2     21-Apr-11              Valve   ~10 GB
9                    Game Dev Tycoon    10-Dec-12  Greenheart Games  ~100 MB
10                   Team Fortress 2    10-Oct-07              Valve   ~15 GB
11  PlayerUnknown's Battlegrounds Lite    29-Jun-19               PUBG    ~3 GB
12                           VALORANT     2-Jun-20        Riot Games   ~15 GB
13                  League Of Legends     7-Oct-08        Riot Games    ~8 GB
14                    GTA San Andreas    26-Oct-04     Rockstar Games    ~5 GB
```

Option 4(Developer (high end))

```
Data Analysis MENU
_____________________________________________

1.  Show Whole DataFrame

2.  Show Columns

3.  Show Top Rows

4.  Row Bottom Rows

5.  Show Specific Column

6.  Add a New Record

7.  Add a New Column

8.  Delete a Column

9.  Delete a Record

10.  Exit (Move to main menu)

Enter your choice:
```

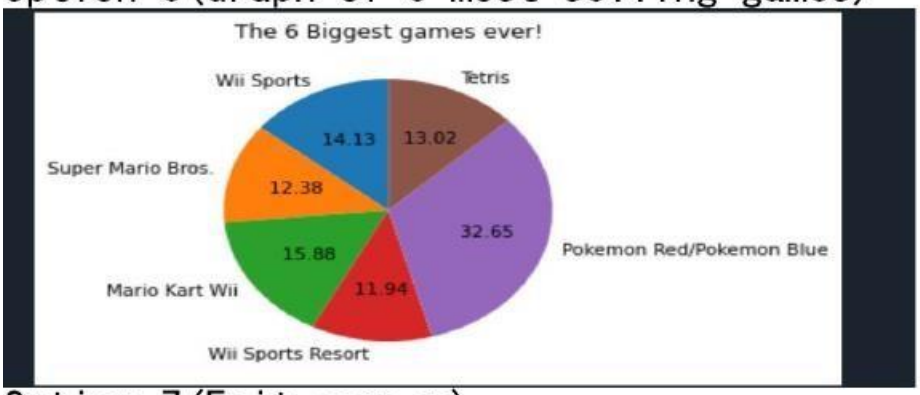
Option 5(Developer (low end))

```
Data Analysis MENU
_____________________________________________

1.  Show Whole DataFrame

2.  Show Columns

3.  Show Top Rows

4.  Row Bottom Rows

5.  Show Specific Column

6.  Add a New Record

7.  Add a New Column

8.  Delete a Column

9.  Delete a Record

10.  Exit (Move to main menu)

Enter your choice:
```

Option 5(Developer (low end))

```
Data Analysis MENU
-------------------------------------------------------------------------------
1.  Show Whole DataFrame

2.  Show Columns

3.  Show Top Rows

4.  Row Bottom Rows

5.  Show Specific Column

6.  Add a New Record

7.  Add a New Column

8.  Delete a Column

9.  Delete a Record

10.  Exit (Move to main menu)

Enter your choice:
```

Option 6(Graph of 6 most selling games)



Option 7(Exit screen)

```
Enter your choice :7


          Gaming Nemesis made by       : Sahil Garje
          Roll No                      : 1
          School Name                  : Army Public School,Ahmednagar
          session                      : 2021-22

          Thanks for evaluating my Project.


Press any key to continue.....
In [78]:
```

MERITS & DEMERITS

✞ MERITS:

- Can edit the list of games
- Navigation panes instead of showing everything at once
- Beginner Friendly
- Has a variety of games(low/high)

✞ DEMERITS:

- Needs constant updates as the tech changes
- Not much useful for non-beginners
- Focus on consoles & cloud gaming isn't there
- To use it on another PC CSV file path always needs to be changed.

CONCLUSION AND FUTURE ENHANCEMENTS

- This project is like a symbiotic relation between Beginners and non-beginners . The beginners use the information provided to them so that they can learn the basics of gaming from a 'hardware' view and the non-beginners add up to this information using their own knowledge.
  - This program can be connected to the excel sheets via CSV formatting for changes in the structure of the table if needed so.

- This can also be updated in terms of graphics, i.e., output can be made more realistic using the graphics features.

References

Webliography:

1} https://www.tutorialaicsip.com/cs-xii-pra/project-synopsis-cbseclass-12/

2} https://www.youtube.com/watch?v=cleVKR-vy0c

3} https://www.slideshare.net/JasmeetSingh38/ip-project-50175201

Bibliography:

Sumita Arora(2020) , ”Informatics Practices Class XII” , Dhanpat Rai & Co.

Sumita Arora(2019) , ”Informatics Practices Class XI” , Dhanpat Rai & Co.