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| Arcadia  Computer Science Project |  |
| By Aahan Rampal, Pratyush Maheshwari, Jayant Nandi  Subject Teacher: Sandhya Ma’am |  |

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| About Python  * **Python** is a high level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Its language constructs as well as its object oriented approach aim to help programmers write clear,logical code for small and large scale projects. * Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library. * Guido van Rossum began working on Python in the late 1980s as a successor to the ABC programming language and first released it in 1991 as Python 0.9.0. Python consistently ranks as one of the most popular programming languages. * Python’s name derived from the British comedy group Monty Python, whom Python creator Guido Van Rossum enjoyed while developing the language. Monty Python references appear frequently in Python code and culture.   Large Organizations that use Python include Wikipedia, Google, Yahoo, NASA, Facebook, Instagram, Amazon, Spotify and some smaller entities like ILM and ITA. The social news networking site Reddit was written mostly in Python. Uses Of Python Python is commonly used for developing websites and software, task automation, data analysis, and data visualization. Since it’s relatively easy to learn, Python has been adopted by many non-programmers such as accountants and scientists, for a variety of everyday tasks, like organizing finances.  “Writing programs is a very creative and rewarding activity,” says University of Michigan and Coursera instructor Charles R Severance in his book *Python for Everybody.* “You can write programs for many reasons, ranging from making your living to solving a difficult data analysis problem to having fun to helping someone else solve a problem.”  **What can you do with python?** Some things include:   * Data analysis and machine learning * Web development * Automation or scripting * Software testing and prototyping * Everyday tasks | | |
|  | *“*Python is an experiment in how much freedom programmers need. Too much freedom and nobody can read another's code; too little and expressiveness is endangered.**”** |  |  |
| **Data Analysis and Machine Learning**  Python has become a staple in data science, allowing data analysts and other professionals to use the language to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, manipulate and analyze data, and complete other data-related tasks.  Python can build a wide range of different data visualizations, like line and bar graphs, pie charts, histograms, and 3D plots. Python also has a number of libraries that enable coders to write programs for data analysis and machine learning more quickly and efficiently, like TensorFlow and Keras.  **Web Development**  Python is often used to develop the back end of a website or application—the parts that a user doesn’t see. Python’s role in web development can include sending data to and from servers, processing data and communicating with databases, URL routing, and ensuring security. Python offers several frameworks for web development. Commonly used ones include Django and Flask.  Some web development jobs that use Python includeback end engineers, full stack engineers, Python developers, software engineers, and DevOps engineers.  **Automation or Scripting**  If you find yourself performing a task repeatedly, you could work more efficiently by automating it with Python. Writing code used to build these automated processes is called scripting. In the coding world, automation can be used to check for errors across multiple files, convert files, execute simple math, and remove duplicates in data.  Python can even be used by relative beginners to automate simple tasks on the computer—such as renaming files, finding and downloading online content or sending emails or texts at desired intervals. | | |  |
| Advantages of Python Python has a large and active community that contributes to Python’s pool of modules and libraries, and acts as a helpful resource for other programmers. The vast support community means that if coders run into a stumbling block, finding a solution is relatively easy; somebody is bound to have encountered the same problem before. | | |  |
| Now, it's my belief that Python is a lot easier than to teach to students programming and teach them C or C++ or Java at the same time because all the details of the languages are so much harder. Other scripting languages really don't work very well there either. | | |  |
| A picture containing logo  Description automatically generated**Advantages:**   1. Easy to learn 2. User Friendly data structures 3. Portable across Operating Systems 4. Free and Open Source 5. Interpreted Language 6. Massive Library  Disadvantages of Python Disadvantages   1. Runtime Errors 2. Unsuitable for Mobile Development 3. It’s Slow 4. It is not memory efficient 5. Errors and Bugs cannot be detected during compilation | | |  |



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| About the Code | |
| This code is based on Probability/Luck or RNG Games which includes Roll the Dice, Rock Paper Scissor, Roulette Blackjack and there is a Shop for buying Stamina. |  |

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| Roll the Dice This phrase originated from the advent of gambling using a six sided die. So when people roll the dice, they hope to get a number, usually number 7, and then win some money. If they don’t get this number, they lose whatever money they had put on the game and get a chance to pay to play again.   * This game is also called Craps in which a dice is rolled and the players bet on the outcome by predicting what it will be. * Players can wager money against each other (playing “Street Craps”) or against a bank (“Casino Craps”).  Rules To Play  1. The player will bet an amount of money on an outcome and if the player gets the outcome right they will get twice the amount they bet. 2. If the player loses then the amount that he had bet on an outcome will be deducted from his current balance |  |
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|  | Disclaimer: This is just a school project, do not gamble in real life. |  |
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|  | Rock Paper and Scissor **Rock paper scissors** is a hand game originating from China, usually played between two people, in which each player simultaneously forms one of three shapes with an outstretched hand. These shapes are "rock" (a closed fist), "paper" (a flat hand), and "scissors" (a fist with the index finger and middle finger extended, forming a V).  The players may count aloud to three, or speak the name of the game (e.g. "Rock! Paper! Scissors!"), either raising one hand in a fist and swinging it down with each syllable or holding it behind their back. They then "throw" or "shoot" by extending it towards their opponent.  Variations include a version where players throw immediately on the third count (thus throwing on the count of "Scissors!"), or a version where they shake their hands three times before "throwing". Rules To Play  1. A player who decides to play rock will beat another player who has chosen scissors ("rock crushes scissors" or "breaks scissors" or sometimes "blunts scissors"), but will lose to one who has played paper ("paper covers rock"); a play of paper will lose to a play of scissors ("scissors cuts paper"). If both players choose the same shape, the game is tied and is usually immediately replayed to break the tie. 2. In this code the player will play against an AI while betting on if they will win or not, if they win against the AI then they will get twice the amount they have bet. 3. If the player/user loses then the amount they have bet will be deducted from their current balance. 4. If there is a tie the no change will happen. |
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Blackjack

“Blackjack is very scientific. There is always a right answer and a wrong answer. Do you take a card, increase your bet, bet big or bet small. There is absolutely a right and wrong answer.”

Blackjack is usually played at a table of 2-7 players and uses one to eight 52-card decks. All number cards (2-10) score the value indicated on them. The face cards (Jack, Queen, King) score 10 points and Ace can either be treated as 1 or 11. Everyone plays against the dealer (the house).  
  
At the beginning of each round, all players place their bets in their betting positions - also known as ‘boxes’. After the bets have been placed, all players are dealt two cards face-up in front of their respective betting positions. The dealer receives two cards, one face-up and another face-down.  
  
Your goal is to draw cards with a value as close to 21 as possible without going over. A hand that goes over 21 is a **bust**or**break.** The players at a blackjack table do not play against each other, they play against the dealer. Each player only must beat the dealer's hand to Win. You do this in one of two ways: 1. Have a card total value greater than that of the dealer and not "bust". 2. Win "by default” if the dealer "busts. 3. Get a Blackjack.



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| Rules To Play  1. Place a bet with the chips in the designated area. The dealer then begins the game. Depending on how many people are playing, the dealer will deal each player two cards (face up). The dealer is also dealt two cards, one face up, and one face down. (The dealers faced down card is referred to as the **"hole card."**) 2. Once the cards are dealt to all the players, the dealer then looks to the first player on his or her left and moves in a circle for each player to decide regarding their hand. 3. When you receive your first two cards, you may either "Stand" or "Hit.” 4. When you **"Stand"** it means you feel you are close enough to 21 and no longer wish any additional cards. On the other hand, you may wish to receive another card or **"Hit"**. 5. Once all the players have completed their hands, it's now the dealers turn to play his or her hand. The dealer starts with the reveal of the "Hole Card" (the dealers faced down card) and acts on the hand according to the rules of the game. If these two cards add up to 16 or less, the dealer must "Hit" until reaching 17 or more. If the two cards add up to 17 to 21, the dealer must "Stand". Just like the players, the dealer will bust if he/she exceeds 21. 6. If the player wins then they will get 2.5 times of their bet 7. If the player loses the bet amount will be deducted from their current balance |



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| Roulette **Roulette** is a casino game named after the French word meaning *little wheel* which was likely developed from the Italian game Birbi*.* In the game, a player may choose to place a bet on a single number, various groupings of numbers and colors, red or black, whether the number is odd or even, or if the numbers are high (19–36) or low (1–18) Rules to Play  1. The player bets an amount n his prediction of a color, single number, range, columns, and rows. 2. Since there is not much risk in Color and Single Number the amount bet by the player will become twice if the player wins and if the player loses the amount they bet will be deducted from their current balance. 3. As Range, Column and Row have a higher risk the bet made by the player will become 2.5 times if they win and if they lose 2.5 times of the bet they have made will be deducted from their current balance. |

**Code**

print("Greetings Players And Welocme To Arcadia")

Username = (input("What's Your Name: "))

print("\nHey",Username,"Welcome to Arcadia, A place for games based on RNG, Probability or Luck it's one and the same.\n \nWe provide you entertainment through games like Roll The Dice, Rock Paper Scissor, Blackjack and the likewise \nThanks for the visit and we hope you enjoy your stay in our humble abode\n ")

golden\_drachma = 5000

stam = 100

print('\nYou are given',golden\_drachma,'golden\_drachmas and',stam,'Stamina for the start\n')

print ("\nEach game consumes some amout of stamina ,And you have to place a bet for each game for which if u win you are given different multipliers of your bet")

input()

from distutils.log import error

from pickle import FALSE

import random

import time

import os

def dotmsg(string):

                    for i in string:

                        print(i, end="")

                        time.sleep(0.4)

arcade = True

while arcade :

        if golden\_drachma == 0 :

            arcade = False

            break

        if stam == 0 :

            arcade == False

            print("\nYou Ran Out Of Stamina")

            print("\nCome Back later")

            break

        print("\nWhich Game You Wanna Play \tgolden\_drachma:",golden\_drachma,"\tStamina: ",stam,"\n 1. Roll The Dice \n 2. Rock Paper Scissors \n 3. Roulette \n 4. Blackjack \n 5. Shop \n 6. Leave")

        try:

            choice = int(input("Choose a game by it's number: "))

        except ValueError:

            print("Please Enter Valid Input")

            continue

        while choice > 6 or choice < 1:

            choice = int(input("Please Enter Valid Input!"))

        if choice == 1 :

            q = True

            if stam < 5 :

                    print("\nNot Enough Stamina To Continue ")

                    break

            else :

                print("In Roll The Dice you and the AI both will roll a dice and if the numbers match, you'll get twice the amount you bet and if you lose, the bet amount will be deducted from total amount.\nThis game will use up 5 stamina")

            while q:

                if stam == 0:

                    break

                if stam < 5 :

                    print("\nNot Enough Stamina To Continue ")

                    break

                dice\_reps = ("",

                 "  \_ \_ \_ \n |     |\n |  .  |\n |\_ \_ \_|\n ",

                 "  \_ \_ \_ \n |     |\n | . . |\n |\_ \_ \_|\n ",

                 "  \_ \_ \_ \n |     |\n | ... |\n |\_ \_ \_|\n ",

                 "  \_ \_ \_ \n | . . |\n | . . |\n |\_ \_ \_|\n ",

                 "  \_ \_ \_ \n | . . |\n | .`. |\n |\_ \_ \_|\n ",

                 "  \_ \_ \_ \n | ... |\n | ... |\n |\_ \_ \_|\n ")

                x = (input("\nAre you ready to Roll Some Dice? (Yes/No): ")).lower()

                if x == 'yes':

                    q = True

                    stam = stam - 5

                elif x == 'no':

                    break

                else:

                    print("Please Enter Valid Input!")

                    continue

                try:

                    bet = int(input("How much you wanna bet on your Win?: "))

                except ValueError:

                    print("Please Enter Valid Value!")

                    continue

                if bet > golden\_drachma:

                    print("Please Bet Accourding To Your golden\_drachma Value!")

                    print("You Have Only", golden\_drachma, "golden\_drachmas Left")

                    continue

                roll = int(input("Enter the value you would like to bet on (value should be More then 0 And Less then 7): "))

                if roll>6 or roll<1:

                    print("Please Enter Valid Value!")

                    continue

                print( "Rolling The Dice...")

                print("The Value Is....")

                if \_\_name\_\_ == '\_\_main\_\_':

                    msg = ". . . . ."

                    dotmsg(msg)

                result = random.randint(1, 6)

                print (dice\_reps[result])

                print(result)

                if roll == result:

                    print("OHhh, Lucky You!!")

                    golden\_drachma = golden\_drachma + bet

                else:

                    print("Better Luck Next Time :P")

                    golden\_drachma = golden\_drachma - bet

                print("golden\_drachma Left :",golden\_drachma)

                print("Stamina Left :",stam)

                if golden\_drachma > 0:

                    continue

                elif golden\_drachma == 0:

                    print("\nGAME OVER!!!")

                    break

            else:

                    print("\nWell See You Later Then",Username)

        elif choice == 2 :

            RPS = True

            if stam < 10 :

                    print("\nNot Enough Stamina To Continue")

                    break

            else :

                print('Welcome to Rock Paper Scissors Fellow Player')

                print("\nWinning rules of The Rock Paper Scissors game as follows: \n"

                                +"Rock vs Paper -> Paper wins \n"

                                + "Rock vs Scissors -> Rock wins \n"

                                +"Paper vs Scissors -> Scissors wins \n"

                                + "If you Win you will get twice the amount you have bet \n"

                                + "If you Lose then the amount you have betted will be Deducted fomr your golden\_drachmas \n"

                                + "If its a Tie No Change will happen in your golden\_drachma nor your Stamina\n")

            while RPS:

                if stam == 0:

                    break

                if stam < 10 :

                    print("\nNot Enough Stamina To Continue")

                    break

                x = (input("You ready to play some Rock Paper And Scissors? (Yes/No): ")).lower()

                if x == 'yes':

                    RPS = True

                    stam = stam - 10

                elif x == 'no':

                    RPS = False

                    continue

                else:

                    print("Please Enter Valid Value!")

                    continue

                t = ['Rock','Paper','Scissors']

                cc = (random.choice(t))

                #cc is computer choice

                try:

                    bet = int(input("How much you wanna bet on your Win?: "))

                except ValueError:

                    print("Please Enter Valid Value!")

                    continue

                if bet>golden\_drachma:

                    print("Please Bet Accourding To Your golden\_drachma Value!")

                    print("You Have Only", golden\_drachma, "golden\_drachmas Left")

                    continue

                print("\nEnter Your Choice \n Rock \n Paper \n Scissors \n")

                uc = input("Your Choice Is: ")

                #uc is user choice

                while uc != 'rock' and uc != 'paper' and uc != 'scissors' and uc != "Scissors" and uc != 'Rock' and uc != 'Paper':

                    uc = input("Please Enter A Valid Choice! ")

                if uc == 'Rock' or uc == 'rock':

                    uc2 = 'R'

                elif uc == 'Paper' or uc == 'paper':

                    uc2 = 'P'

                elif uc == 'Scissors' or uc == 'scissors':

                    uc2 = 'S'

                print("\nComputer's Choice Is....")

                if \_\_name\_\_ == '\_\_main\_\_':

                    msg = ". . . . ."

                    dotmsg(msg)

                print(cc)

                #the real checking

                #u chose rock and ai does rock  - tie

                if cc == "Rock" and uc2 == 'R':

                    print("It Was A Tie!")

                    golden\_drachma = golden\_drachma

                    stam = stam + 10

                #u chose paper and ai does rock - win

                elif cc == "Rock" and uc2 == 'P':

                    print("It Was A Win! :p")

                    golden\_drachma = golden\_drachma + (2\*bet)

                #u chose scissors and ai does rock - lose

                elif cc == "Rock" and uc2 == 'S':

                    print("It Was A Lose : ( ")

                    golden\_drachma = golden\_drachma - bet

                #u chose rock and ai does paper - lose

                elif cc == "Paper" and uc2 == 'R':

                    print("It Was A Lose : ( ")

                    golden\_drachma = golden\_drachma - bet

                #u chose paper and ai does paper - tie

                elif cc == "Paper" and uc2 == 'P':

                    print("It Was A Tie!")

                    golden\_drachma = golden\_drachma

                    stam = stam + 10

                #u chose scissors and ai does paper - win

                elif cc == "Paper" and uc2 == 'S':

                    print("It Was A Win! :p")

                    golden\_drachma = golden\_drachma + (2\*bet)

                #u choose rock and ai does scissors - win

                elif cc == "Scissors" and uc2 == 'R':

                    print("It Was A Win! :p")

                    golden\_drachma = golden\_drachma + (2\*bet)

                #u choose paper and ai does scissors - lose

                elif cc == "Scissors" and uc2 == 'P':

                    print("It Was A Lose : ( ")

                    golden\_drachma = golden\_drachma - bet

                #u choose scissors and ai does scissors - tie

                elif cc == "Scissors" and uc2 == 'S':

                    print("It Was A Tie!")

                    golden\_drachma = golden\_drachma

                    stam = stam + 10

                print("golden\_drachma Left :",golden\_drachma)

                print("Stamina Left :",stam)

                if golden\_drachma > 0:

                    continue

                elif golden\_drachma == 0:

                    print("\nGAME OVER!!!")

                    break

            else:

                print("/nWell see you later then",Username)

        elif choice == 3:

            r = True

            if stam < 5 :

                    print("\nNot Enough Stamina To Continue ")

                    break

            else :

                #do what i wrote after intro plz , with all the shit and even decide the items in the shop all up to u what u want just have boba in it

                print("Roulette is a casino game named after the French word meaning little wheel which was likely developed from the Italian game Biribi.\n"

                        +"\nIn the game, a player may choose to place a bet on a single number, various groupings of numbers, the color red or black, whether the number is odd or even, or if the numbers are high (19–36) or low (1–18).\n"

                        +"\n This will cost you 20 stamina and if you win you'll get 10 times your bet and if you loose the amount you have bet will get deducted")

            while r:

                if stam == 0:

                    break

                if stam < 20 :

                    print("\nNot Enough Stamina To Continue ")

                    break

                x = (input("You ready to play some roulette? (Yes/No): ")).lower()

                if x == 'yes':

                    r = True

                    stam = stam - 20

                elif x == 'no':

                    r = False

                    continue

                else:

                    print("please enter valid input!")

                    continue

                bet = int(input("Amount of money you wanna bet: "))

                if bet>golden\_drachma:

                    print("Please bet accourding to your golden\_drachma value!")

                    print("You have", golden\_drachma, "golden\_drachmas")

                    continue

                roulette = {'00':'Green',0:'Green',1:'Red',2:'Black',3:'Red',4:'Black',5:'Red',6:'Black',7:'Red',

                            8:'Black',9:'Red',10:'Black',11:'Black',12:'Red',13:'Black',14:'Red',15:'Black',16:'Red',

                            17:'Black',18:'Red',19:'Red',20:'Black',21:'Red',22:'Black',23:'Red',24:'Black',25:'Red',

                            26:'Black',27:'Red',28:'Black',29:'Black',30:'Red',31:'Black',32:'Red',33:'Black',34:'Red',

                            35:'Black',36:'Red',}

                RB = [  [1,2,3,4,5,6,7,8,9,10,11,12],

                        [13,14,15,16,17,18,19,20,21,22,23,24],

                        [25,26,27,28,29,30,31,32,33,34,35,36]]

                print("\nWhich kinda bet you waana make\n1.Single Number\n2.Color\n3.Odd and Even\n4.Rows\n5.Columes\n6.Range\n7.Leave")

                choice =int(input("Enter Your Choice: "))

                if choice < 1 or choice > 6:

                    print("Please enter a valid intput")

                    continue

                if choice == 1:

                    print("On which number you wanna place you bet from 1-36?")

                    try:

                        bets = int(input("Which Number do you want to choose: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 36 :

                        print("Please enter a vlaid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    print("\nThe Ball Landed On:",number)

                    if bets == number :

                        print("\nWOOHOO You Won")

                        golden\_drachma = golden\_drachma + (bet\*10)

                    else:

                        print("\nF Mate You Lost")

                        golden\_drachma = golden\_drachma - bet

                if choice == 2:

                    print("On which color you wanna place your bet\n1.Red\n2.Black")

                    try:

                        bets = int(input("Enter Your Choice: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 2:

                        print("Please enter a valid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    print("\nThe Ball Landed On:",color)

                    if bets == 1:

                        if color == 'Red':

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                        else :

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                    if bets == 2:

                        if color == 'Black':

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                        else :

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                if choice == 3:

                    print("On which you wanna make your bet \n1.Odd\n2.Even")

                    try:

                        bets = int(input("Enter Your Choice: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 2:

                        print("Please enter a valid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    print("\nThe Ball Landed On:",number)

                    if bets == 1:

                        if (number%2) == 0:

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                        else:

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                    if bets == 2:

                        if (number%2) == 0:

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                        else:

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                if choice == 4:

                    print("On which Row you wana make your bet \n1.1st row [1,2,3,4,5,6,7,8,9,10,11,12]\n2.2nd row [12,14,15,16,17,18,19,20,21,22,23,24]\n3.3rd row [25,26,27,28,29,30,31,32,33,34,35,36]")

                    try:

                        bets = int(input("Enter Your Choice: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 3:

                        print("Please enter a valid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    for i, j in enumerate(RB):

                        for l, m in enumerate(j):

                            if RB[i][l] == number:

                                print("\nThe Ball Landed On: Row",i+1)

                                print(RB[i])

                                if bets == i+1:

                                    print("\nWOOHOO You Won")

                                    golden\_drachma = golden\_drachma + (bet\*2.5)

                                else:

                                    print("\nF Mate You Lost")

                                    golden\_drachma = golden\_drachma - bet

                if choice == 5:

                    print("On which colume you wanna bet on ?")

                    for i in range(12):

                        if i < 9:

                            print("Column", i+1, end='  ')

                        else:

                            print("Column", i+1, end=' ')

                    print()

                    for i in range(3):

                        for j in range(12):

                            if RB[i][j] < 10:

                                print("      ", RB[i][j], end='  ')

                            else:

                                print("      ", RB[i][j], end=' ')

                        print()

                    try:

                        bets = int(input("Enter Your Choice: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 12:

                        print("Please enter a valid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    print("\nThe Ball Landed On:",number,color)

                    for i, j in enumerate(RB):

                        for l, m in enumerate(j):

                            if RB[i][l] == number:

                                print("\nThe Ball Landed On: Column",l+1)

                                for z in (1,4):

                                    print(RB[z][l]," ")

                                if bets == i+1:

                                    print("\nWOOHOO You Won")

                                    golden\_drachma = golden\_drachma + (bet\*2.5)

                                else:

                                    print("\nF Mate You Lost")

                                    golden\_drachma = golden\_drachma - bet

                if choice == 6:

                    print("On which range you wanna place your bet?\n1.1st range [1-18]\n2.2nd range [19-36]")

                    try:

                        bets = int(input("Enter Your Choice: "))

                    except ValueError:

                        print("Please enter a valid input")

                    if bets < 1 or bets > 2:

                        print("Please enter a valid input")

                        continue

                    print("The Roulette Gonna Spin Now")

                    if \_\_name\_\_ == '\_\_main\_\_':

                        msg = ". . . . ."

                        dotmsg(msg)

                    number,color = random.choice(list(roulette.items()))

                    r1 = range(1,19)

                    r2 = range(19,37)

                    if number in r1:

                        print("\nThe Ball Landed On: Range[1-18]")

                    elif number in r2:

                        print("\nThe Ball Landed On: Range[19-36]")

                    else:

                        pass

                    if bets == 1:

                        if number in r1:

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                        else:

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                    if bets == 2:

                        if number in r2:

                            print("\nWOOHOO You Won")

                            golden\_drachma = golden\_drachma + (bet\*2)

                        else:

                            print("\nF Mate You Lost")

                            golden\_drachma = golden\_drachma - bet

                if choice == 7 :

                        print("See you Later")

                        break

                print("\ngolden\_drachma Left :",golden\_drachma)

                print("Stamina Left :",stam)

                if golden\_drachma > 0:

                    continue

                elif golden\_drachma == 0:

                    print("\nGAME OVER!!!")

                    break

            else:

                print("Well see you later then",Username)

        elif choice == 4:

            blackjack = True

            if stam < 20 :

                    print("\nNot Enough Stamina To Continue")

                    break

            else :

                print('Welcome to Blackjack')

                print("\nRules of Blackjack: \n"

                                +"Blackjack is usually played at a table of 2-7 players and uses one to eight 52-card decks. All number cards (2-10) score the value indicated on them. The face cards (Jack, Queen, King) score 10 points and Ace can either be treated as 1 or 11. \n"

                                +"\nAt the beginning of each round, all players place their bets in their betting positions - also known as ‘boxes’. After the bets have been placed, all players are dealt two cards face-up in front of their respective betting positions. The dealer receives two cards, one face-up and another face-down.\n"

                                +"\nStarting to the left of the dealer, each player is given a chance to draw more cards. The players can either ‘hit’ or ‘stand’. If the player calls out ‘HIT’, they are given an extra card. They can then either call out ‘HIT’ again, or ‘STAND’ if they do not wish to draw any more cards. The player can ‘HIT’ as many times as they wish, but have to aim not to ‘bust’ (exceed a total of 21). \n"

                                +"\nIf the player busts, they immediately lose their bet. \n"

                                +"\nAfter each player has played and either stood or busted, the dealer takes their turn. They can, again, either ‘HIT’ or ‘STAND’. If the dealer’s hand exceeds 21, all players who didn't bust win immediately - their bet is returned along with a matching amount from the dealer's bank.\n"

                                +"\nIf the dealer reaches a valid hand, the cards are totalled and each player’s hand is compared to the dealer’s. If the player scored higher than the dealer, they win. If the player ties with the dealer, the original bet is returned to the player. Otherwise, the player loses their bet.\n"

                                +"\nA perfect hand combines an ace with a 10, Jack, Queen or King and is known as a ‘Blackjack’.\n"

                                +"\nIf you Lose then the amount you have bet will be Deducted from your golden\_drachmas \n"

                                +"\nIf its a Tie No Change will happen in your golden\_drachma nor your Stamina\n")

            while blackjack:

                if stam < 10 :

                    print("\nNot Enough Stamina To Continue")

                    break

                x = (input("You ready to play some Blackjack (Yes/No): ")).lower()

                if x == 'yes':

                    blackjack = True

                    stam = stam - 20

                elif x == 'no':

                    blackjack = False

                    break

                else:

                    print("Please Enter Valid Value!")

                    continue

                bet = int(input("How much you wanna bet on your Win?: "))

                if bet>golden\_drachma:

                    print("Please Bet Accourding To Your golden\_drachma Value!")

                    print("You Have Only", golden\_drachma, "golden\_drachmas Left")

                    continue

                decks = input("Enter number of decks to use: ")

                #user chooses number of decks to use

                deck = [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]\*(int(decks)\*4)

                #if decks not in (2,3,4,5,6,7,8,9,10,11,12,13,14):

                 #   print("Please enter a valid value!")

                  #  continue

                #initialize scores

                wins = 0

                losses = 0

                def deal (deck):

                    hand = []

                    for i in range (2):

                        random.shuffle(deck)

                        card = deck.pop()

                        if card == 11:card = "J"

                        if card == 12:card = "Q"

                        if card == 13:card = "K"

                        if card == 14:card = "A"

                        hand.append(card)

                    return hand

                def play\_again():

                    again=input("Do you want to play again? (Y/N): ").lower

                    global dealer\_hand, player\_hand, deck, quit, blackjack

                    if again == "y":

                        dealer\_hand = []

                        player\_hand = []

                        deck = [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]\*4

                        game()

                    else:

                        print("\ngolden\_drachma Left :",golden\_drachma)

                        print("Stamina Left :",stam)

                        print("Bye!")

                        quit = True

                        blackjack = False

                def total(hand):

                    total = 0

                    for card in hand:

                        if card == "J" or card == "Q" or card == "K":

                            total+=10

                        elif card ==  "A":

                            if total >= 11: total+=1

                            else: total+=1

                        else: total+=card

                    return total

                def hit(hand):

                    card = deck.pop()

                    if card == 11:card = "J"

                    if card == 12:card = "Q"

                    if card == 13:card = "K"

                    if card == 14:card = "A"

                    hand.append(card)

                    return hand

                def print\_results(dealer\_hand, player\_hand):

                    print("\n WELCOME TO BLACKJACK! \n")

                    print("-"\*30+"\n")

                    print("   WINS:    %s    LOSSES:   %s\n" %(wins,losses))

                    print("-"\*30+"\n")

                    print("The dealer has a " +str(dealer\_hand)+"for a total of" + str(total(dealer\_hand)))

                    print ("You have a " + str(player\_hand) + " for a total of " + str(total(player\_hand)))

                def blackjack(dealer\_hand, player\_hand):

                    global wins, losses, golden\_drachma

                    if total(player\_hand) == 21:

                        print\_results(dealer\_hand, player\_hand)

                        print("Congratulations! You gota a Blackjack!\n")

                        golden\_drachma = golden\_drachma + (bet\*2)

                        wins += 1

                        play\_again()

                    elif total(dealer\_hand) == 21:

                        print\_results(dealer\_hand,player\_hand)

                        print("Sorry, you lose. The dealer got a blackjack.\n")

                        golden\_drachma = golden\_drachma - bet

                        losses += 1

                        play\_again()

                def score(dealer\_hand,player\_hand):

                    #score function now updates to global win/loss variables

                    global wins,losses,golden\_drachma

                    if total(player\_hand) == 21:

                        print\_results(dealer\_hand,player\_hand)

                        print("Congratulations! You got a Blackjack!\n")

                        golden\_drachma = golden\_drachma + (bet\*2)

                        wins += 1

                    elif total(dealer\_hand) == 21:

                        print\_results(dealer\_hand, player\_hand)

                        print ("Sorry, you lose. The dealer got a blackjack.\n")

                        golden\_drachma = golden\_drachma - bet

                        losses += 1

                    elif total(player\_hand) > 21:

                        print\_results(dealer\_hand, player\_hand)

                        print ("Sorry. You busted. You lose.\n")

                        golden\_drachma = golden\_drachma - bet

                        losses += 1

                    elif total(dealer\_hand) > 21:

                        print\_results(dealer\_hand, player\_hand)

                        print ("Dealer busts. You win!\n")

                        golden\_drachma = golden\_drachma + (bet\*2)

                        wins += 1

                    elif total(player\_hand) < total(dealer\_hand):

                        print\_results(dealer\_hand, player\_hand)

                        print ("Sorry. Your score isn't higher than the dealer. You lose.\n")

                        golden\_drachma = golden\_drachma - bet

                        losses += 1

                    elif total(player\_hand) > total(dealer\_hand):

                        print\_results(dealer\_hand, player\_hand)

                        print ("Congratulations. Your score is higher than the dealer. You win\n")

                        golden\_drachma = golden\_drachma + (bet\*2)

                        wins += 1

                def game():

                    global wins,losses,golden\_drachma,blackjack, quit

                    choice = 0

                    print("\n    WELCOME TO BLACKJACK!\n")

                    print("-"\*30+"\n")

                    print("   WINS:    %s    LOSSES:   %s\n" %(wins,losses))

                    print("-"\*30+"\n")

                    dealer\_hand = deal(deck)

                    player\_hand = deal(deck)

                    print("The dealer is showing a " + str(dealer\_hand[0]))

                    print ("You have a " + str(player\_hand) + " for a total of " + str(total(player\_hand)))

                    blackjack(dealer\_hand, player\_hand)

                    quit=False

                    while not quit:

                        choice = input("Do you want to [H]it, [S]tand or [Q]uit: ").lower()

                        if choice == 'h':

                            hit(player\_hand)

                            print(player\_hand)

                            print("Hand total: " + str(total(player\_hand)))

                            if total(player\_hand)>21:

                                print('You busted')

                                golden\_drachma = golden\_drachma - bet

                                losses += 1

                                play\_again()

                        elif choice=='s':

                            while total(dealer\_hand)<17:

                                hit(dealer\_hand)

                                print(dealer\_hand)

                                if total(dealer\_hand)>21:

                                    print('Dealer busts, you win!')

                                    golden\_drachma = golden\_drachma + (bet\*2)

                                    wins += 1

                                    play\_again()

                            score(dealer\_hand,player\_hand)

                            play\_again()

                        elif choice == 'q':

                            print("Bye")

                            quit=True

                            blackjack = False

                            break

                game()

            if golden\_drachma>0:

                continue

            elif golden\_drachma == 0:

                print("\nGAME OVER!!!")

                blackjack = False

                break

            else:

                print("Well see you later then",Username)

        elif choice == 5:

            shop = True

            print("\nWelcome to shop fellow player")

            while shop :

                x = (input("\nAre You Intrested To Buy Something? (Yes/No): ")).lower()

                if x == 'yes':

                    shop = True

                elif x == 'no':

                    shop = False

                    continue

                else :

                    print("Please Enter Valid Value!")

                    continue

                print("\nHere Is The Menu Of The Arcadia \n1)-----------$100----------Recovers 5  Stamina \n2)-----------$200----------Recovers 10 Stamina \n3)-----------$500----------Recovers 20 Stamina \n4)-----------$1000---------Recovers 40 Stamina \n5)-----------$2000---------Recovers 60 Stamina \n6)Leave \n")

                order = int(input("Which Item You Wanna Buy:"))

                if order == 1 :

                    stam = stam + 5

                    golden\_drachma = golden\_drachma - 100

                    print("You have brought the 1st item and now your stamina is",stam)

                    if stam > 100 :

                        print("\nSorry But You Cant Go Over 100")

                        stam = stam - 5

                        golden\_drachma = golden\_drachma + 100

                        print("You Have",stam,"Stam Left Now,And Your Currency Has Been Refunded")

                    else :

                        continue

                elif order == 2 :

                    stam = stam + 10

                    golden\_drachma = golden\_drachma - 200

                    print("You have brought the 2nd item and now your stamina is",stam)

                    if stam > 100 :

                        print("\nSorry But You Cant Go Over 100")

                        stam= stam - 10

                        golden\_drachma =golden\_drachma + 200

                        print("You Have",stam,"Stam Left Now,And Your Currency Has Been Refunded")

                    else :

                        continue

                elif order == 3 :

                    stam = stam + 20

                    golden\_drachma = golden\_drachma - 500

                    print("You have brought the 3rd item and now your stamina is",stam)

                    if stam > 100 :

                        print("\nSorry But You Cant Go Over 100")

                        stam= stam - 20

                        golden\_drachma =golden\_drachma + 500

                        print("You Have",stam,"Stam Left Now,And Your Currency Has Been Refunded")

                    else :

                        continue

                elif order == 4 :

                    stam = stam + 40

                    golden\_drachma = golden\_drachma - 1000

                    print("You have brought the 4th item and now your stamina is",stam)

                    if stam > 100 :

                        print("\nSorry But You Cant Go Over 100")

                        stam= stam - 40

                        golden\_drachma =golden\_drachma + 1000

                        print("You Have",stam,"Stam Left Now,And Your Currency Has Been Refunded")

                    else :

                        continue

                elif order == 5 :

                    stam = stam + 60

                    golden\_drachma = golden\_drachma - 2000

                    print("You have brought the 5th item and now your stamina is",stam)

                    if stam > 100 :

                        print("\nSorry But You Cant Go Over 100")

                        stam= stam - 60

                        golden\_drachma =golden\_drachma + 2000

                        print("You Have",stam,"Stam Left Now,And Your Currency Has Been Refunded")

                    else :

                        continue

                elif order == 6:

                    print("See You Later",Username)

        elif choice == 6:

            print("Well see you later then",Username)

            break

**OUTPUT**

# Bibliography

Calendar

Description automatically generated

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | **GROUP MEMBERS**   * **Aahan Rampal** * **Pratyush Maheshwari** * **Jayant Nandi** | |
|  |  |  |