

# Black Jack

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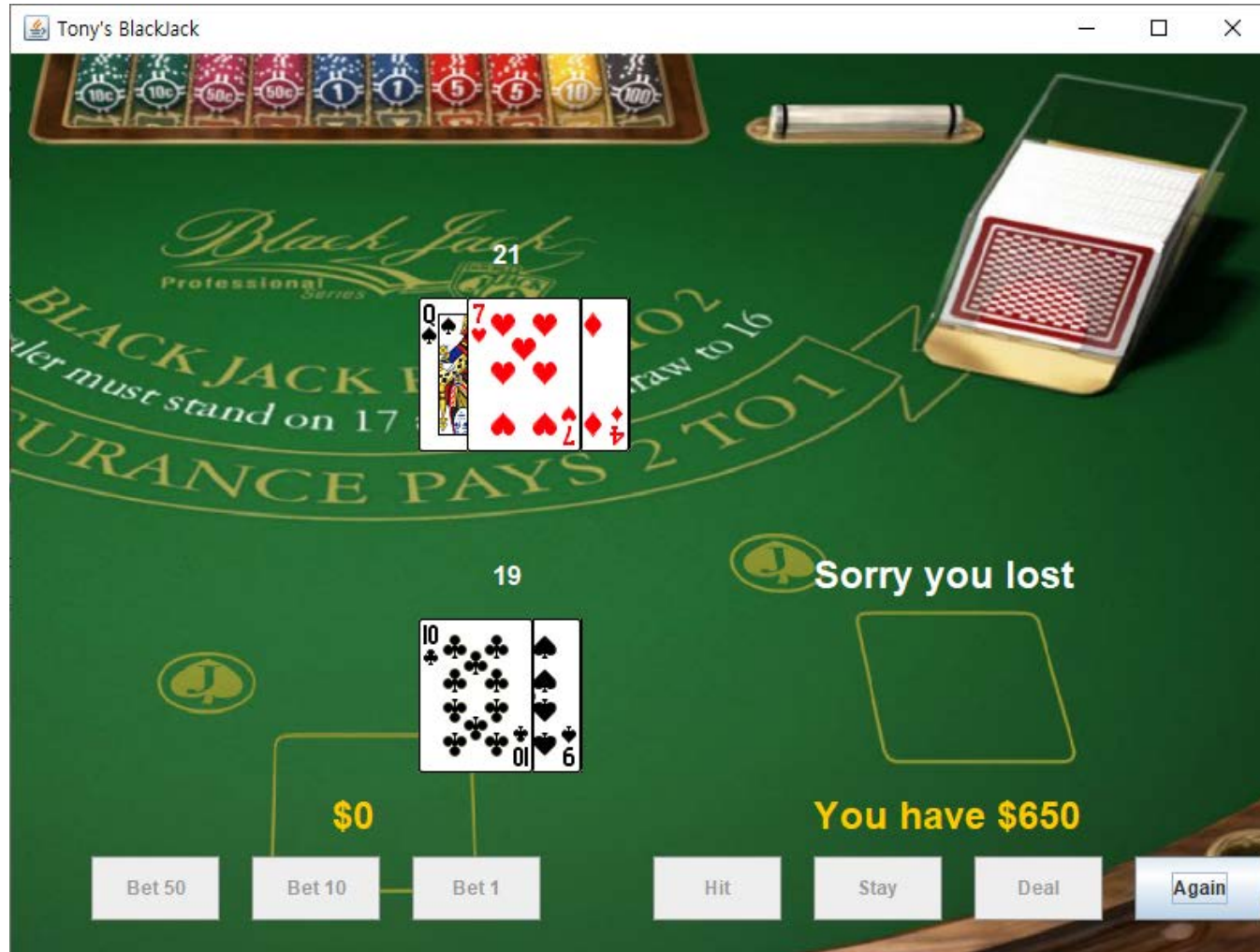
# Black Jack



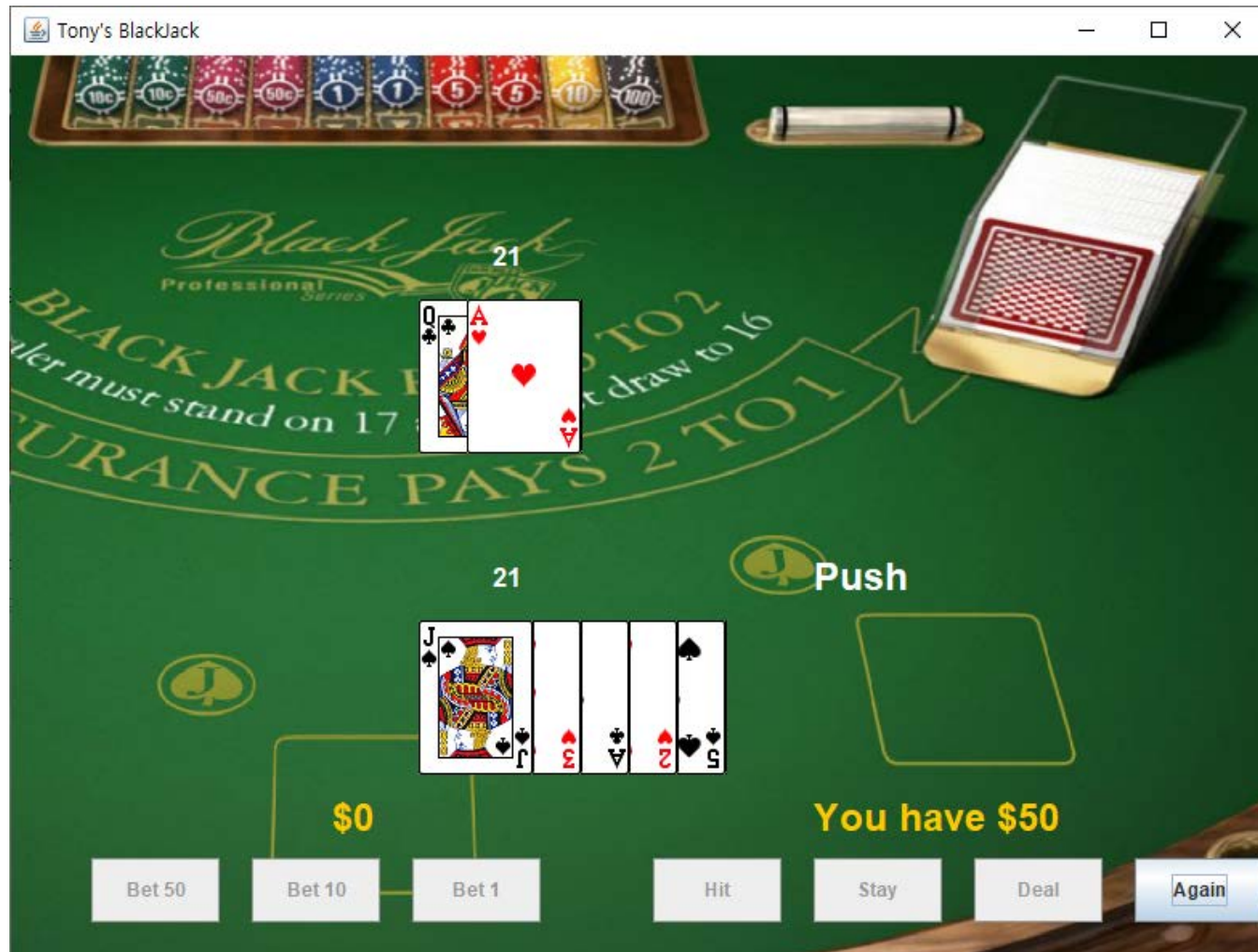
# Black Jack



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# Player.py

```
class Player:
    def __init__(self, name):
        self.name = name
        self.cards = []
        self.N = 0
    def inHand(self):
        return self.N
    def addCard(self, c):
        self.cards.append(c)
        self.N += 1
    def reset(self):
        self.N = 0
        self.cards.clear()
    def value(self): #ace는 1혹은 11로 모두 사용 가능
                   #일단 11로 계산한 후 21이 넘어가면 1로 정정
```

# Card.py

```
class Card:          #클래스 Card
    def __init__(self,number): #랜덤 넘버 number = 0..51 값 인자로 전달
        self.x = number // 13  #0..51 // 13 -> 0,1,2,3 무늬(suit)
        self.value = number % 13 + 1 #1,2,...13 (13가지 숫자)
    def getsuit(self): # self.x 에 따라서 카드 무늬를 반환하는 함수
        suits = ['Clubs','Spades','Hearts','Diamonds'] #카드 무늬 리스트
        return suits[self.x] #4 문자열 중에서 self.x 문자열 반환
    def filename(self): # 랜덤넘버 number =0..51 에서 file name 반환
        return self.getsuit()+str(self.value)+'.png'
    def getValue(self): # 1,2,3,4,5,6,7,8,9,10 -> 원래 숫자, J,Q,K -> 10
        if self.value > 10: #J,Q,K 인 경우
            return 10
        else: #1,2,...10
            return self.value
```

# BlackJack.py

```
from tkinter import *
from tkinter import font
from winsound import *
from Card import *
from Player import *
import random

class BlackJack:
    def __init__(self):
        self.window = Tk()
        self.window.title("Black Jack")
        self.window.geometry("800x600")
        self.window.configure(bg="green")
        self.fontstyle = font.Font(self.window, size=24, weight='bold', family='Consolas')
        self.fontstyle2 = font.Font(self.window, size=16, weight='bold', family='Consolas')
        self.setupButton()
        self.setupLabel()

        self.player = Player("player")
        self.dealer = Player("dealer")
        self.betMoney = 0
        self.playerMoney = 1000
        self.nCardsDealer = 0
        self.nCardsPlayer = 0
        self.LcardsPlayer = []
        self.LcardsDealer = []
        self.deckN = 0
        self.window.mainloop()
```

BlackJack()

# BlackJack.py

```
def setupButton(self):
    self.B50 = Button(self.window, text="Bet 50", width=6, height=1, font=self.fontstyle2, command=self.pressedB50)
    self.B50.place(x=50, y=500)
    self.B10 = Button(self.window, text="Bet 10", width=6, height=1, font=self.fontstyle2, command=self.pressedB10)
    self.B10.place(x=150, y=500)
    self.B1 = Button(self.window, text="Bet 1", width=6, height=1, font=self.fontstyle2, command=self.pressedB1)
    self.B1.place(x=250, y=500)
    self.Hit = Button(self.window, text="Hit", width=6, height=1, font=self.fontstyle2, command=self.pressedHit)
    self.Hit.place(x=400, y=500)
    self.Stay = Button(self.window, text="Stay", width=6, height=1, font=self.fontstyle2, command=self.pressedStay)
    self.Stay.place(x=500, y=500)
    self.Deal = Button(self.window, text="Deal", width=6, height=1, font=self.fontstyle2, command=self.pressedDeal)
    self.Deal.place(x=600, y=500)
    self.Again = Button(self.window, text="Again", width=6, height=1, font=self.fontstyle2, command=self.pressedAgain)
    self.Again.place(x=700, y=500)

    self.Hit['state'] = 'disabled'
    self.Hit['bg'] = 'gray'
    self.Stay['state'] = 'disabled'
    self.Stay['bg'] = 'gray'
    self.Deal['state'] = 'disabled'
    self.Deal['bg'] = 'gray'
    self.Again['state'] = 'disabled'
    self.Again['bg'] = 'gray'
```

# BlackJack.py

```
def setupLabel(self):
    self.LbetMoney = Label(text="$0",width=4,height=1,font=self.fontstyle,bg="green",fg="cyan")
    self.LbetMoney.place(x=200,y=450)
    self.LplayerMoney = Label(text="You have $1000",width=15,height=1,font=self.fontstyle,bg="green",fg="cyan")
    self.LplayerMoney.place(x=500,y=450)
    self.LplayerPts = Label(text="",width=2,height=1,font=self.fontstyle2,bg="green",fg="white")
    self.LplayerPts.place(x=300,y=300)
    self.LdealerPts = Label(text="",width=2,height=1,font=self.fontstyle2,bg="green",fg="white")
    self.LdealerPts.place(x=300,y=100)
    self.Lstatus = Label(text="",width=15,height=1,font=self.fontstyle,bg="green",fg="white")
    self.Lstatus.place(x=500,y=300)
```

# BlackJack.py

```
def pressedB50(self):
    self.betMoney += 50
    if 50 <= self.playerMoney:
        self.LbetMoney.configure(text="$"+str(self.betMoney))
        self.playerMoney -=50
        self.LplayerMoney.configure(text="You have $"+str(self.playerMoney))
        self.Deal["state"] = "active"
        self.Deal["bg"] = "white"
        PlaySound('sounds/chip.wav', SND_FILENAME)
    else:
        self.betMoney -= 50
```

# BlackJack.py

```
def deal(self):
    self.player.reset()
    self.dealer.reset()
    #카드 덱 52장 셔플링 0, 1, .. 51
    self.cardDeck = [i for i in range(52)]
    random.shuffle(self.cardDeck)
    self.deckN = 0

    self.hitPlayer(0)
    self.hitDealerDown()
    self.hitPlayer(1)
    self.hitDealer(0)
    self.nCardsPlayer = 1
    self.nCardsDealer = 0

    self.B50['state'] = 'disabled'
    self.B50['bg'] = 'gray'
    self.B10['state'] = 'disabled'
    self.B10['bg'] = 'gray'
    self.B1['state'] = 'disabled'
    self.B1['bg'] = 'gray'
```

# BlackJack.py

```
def hitPlayer(self, n):
    newCard = Card(self.cardDeck[self.deckN])
    self.deckN += 1
    self.player.addCard(newCard)
    p = PhotoImage(file="cards/"+newCard.filename())
    self.LcardsPlayer.append(Label(self.window, image=p))

    #파이썬은 라벨 이미지 레퍼런스를 갖고 있어야 이미지가 보임
    self.LcardsPlayer[self.player.inHand() - 1].image = p

    self.LcardsPlayer[self.player.inHand() - 1].place(x=250+n*30, y=350)

    self.LplayerPts.configure(text=str(self.player.value()))
    PlaySound('sounds/cardFlip1.wav', SND_FILENAME)
```



# BlackJack.py

```
def pressedHit(self):  
    self.nCardsPlayer += 1  
    self.hitPlayer(self.nCardsPlayer)  
    if self.player.value() > 21:  
        self.checkWinner()
```

# BlackJack.py

```
def checkWinner(self):
    #뒤집힌 카드를 다시 그린다.
    p = PhotoImage(file="cards/"+self.dealer.cards[0].filename())
    self.LcardsDealer[0].configure(image = p) #이미지 레퍼런스 변경
    self.LcardsDealer[0].image=p#파이썬은 라벨 이미지 레퍼런스를 갖고 있어야 이미지가 보임

    self.LdealerPts.configure(text=str(self.dealer.value()))

    if self.player.value() > 21:
        self.Lstatus.configure(text="Player Busts")
        PlaySound('sounds/wrong.wav', SND_FILENAME)
    elif self.dealer.value() > 21:
        self.Lstatus.configure(text="Dealer Busts")
        self.playerMoney += self.betMoney*2
        PlaySound('sounds/win.wav', SND_FILENAME)
    elif self.dealer.value() == self.player.value():
        self.Lstatus.configure(text="Push")
        self.playerMoney += self.betMoney
    elif self.dealer.value() < self.player.value():
        self.Lstatus.configure(text="You won!!")
        self.playerMoney += self.betMoney*2
        PlaySound('sounds/win.wav', SND_FILENAME)
    else:
        self.Lstatus.configure(text="Sorry you lost!")
        PlaySound('sounds/wrong.wav', SND_FILENAME)
```

...

# BlackJack.py

```
def checkWinner(self):
```

```
...
```

```
self.betMoney = 0
```

```
self.LplayerMoney.configure(text="You have $" + str(self.playerMoney))
```

```
self.LbetMoney.configure(text="$" + str(self.betMoney))
```

```
self.B50['state'] = 'disabled'
```

```
self.B50['bg'] = 'gray'
```

```
self.B10['state'] = 'disabled'
```

```
self.B10['bg'] = 'gray'
```

```
self.B1['state'] = 'disabled'
```

```
self.B1['bg'] = 'gray'
```

```
self.Hit['state'] = 'disabled'
```

```
self.Hit['bg'] = 'gray'
```

```
self.Stay['state'] = 'disabled'
```

```
self.Stay['bg'] = 'gray'
```

```
self.Deal['state'] = 'disabled'
```

```
self.Deal['bg'] = 'gray'
```

```
self.Again['state'] = 'active'
```

```
self.Again['bg'] = 'white'
```