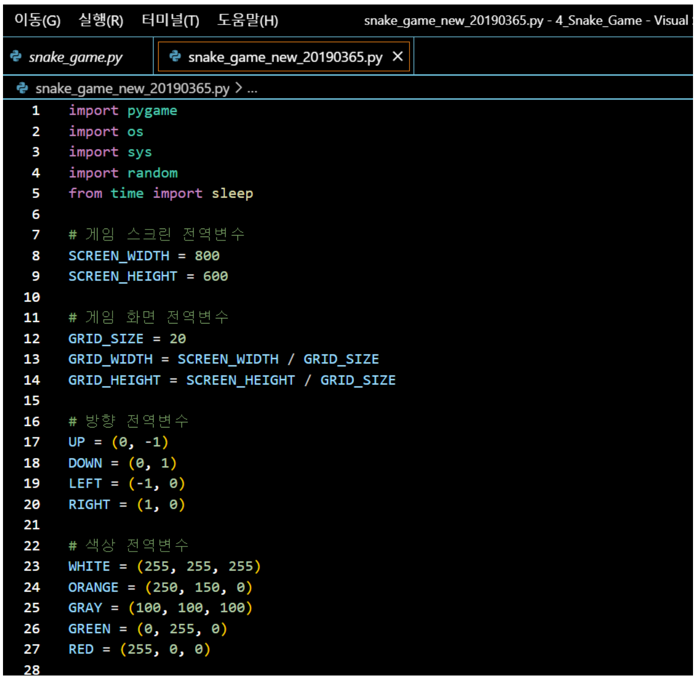
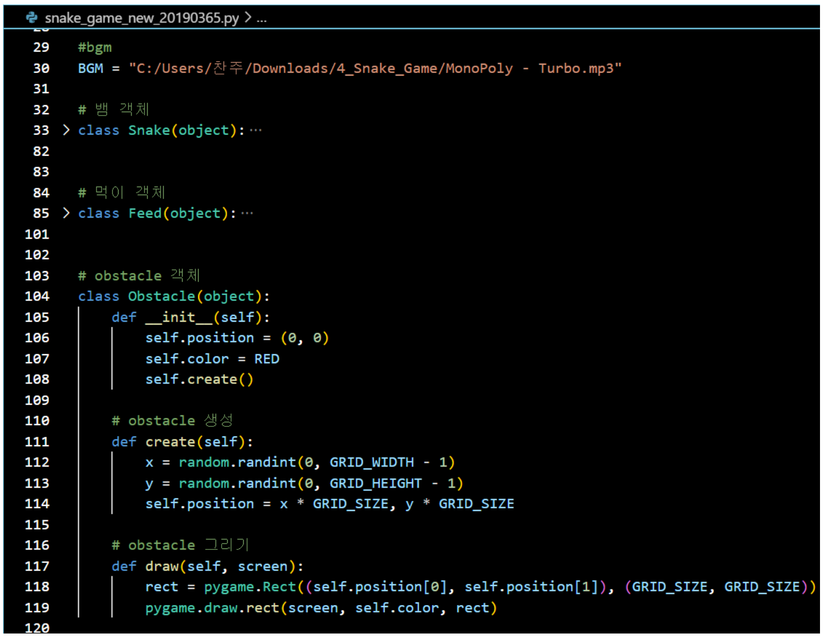

이동(G)
실행(R)
터미널(T)
도움말(H)
snake_game_new_20190365.py - 4_Snake_Game - Visual
snake_game.py
snake_game_new_20190365.py
snake_game_new_20190365.py > ...

```python
import pygame
import os
import sys
import random
from time import sleep

# 게임 스크린 전역변수
SCREEN_WIDTH = 800
SCREEN_HEIGHT = 600

# 게임 화면 전역변수
GRID_SIZE = 20
GRID_WIDTH = SCREEN_WIDTH / GRID_SIZE
GRID_HEIGHT = SCREEN_HEIGHT / GRID_SIZE

# 방향 전역변수
UP = (0, -1)
DOWN = (0, 1)
LEFT = (-1, 0)
RIGHT = (1, 0)

# 색상 전역변수
WHITE = (255, 255, 255)
ORANGE = (250, 150, 0)
GRAY = (100, 100, 100)
GREEN = (0, 255, 0)
RED = (255, 0, 0)

```

#20190365 김찬주

색상 전역변수 GREEN, RED 추가



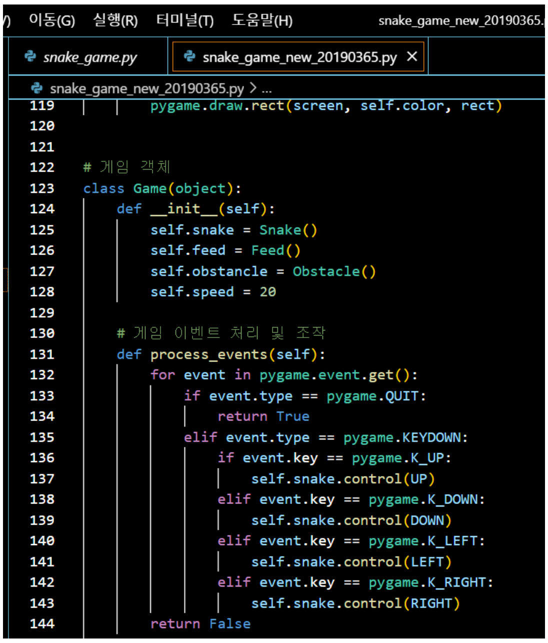
```python
#bgm
BGM = "C:/Users/찬주/Downloads/4_Snake_Game/MonoPoly - Turbo.mp3"

# 뱀 객체
class Snake(object):···


# 먹이 객체
class Feed(object):···


# obstacle 객체
class Obstacle(object):
    def __init__(self):
        self.position = (0, 0)
        self.color = RED
        self.create()

    # obstacle 생성
    def create(self):
        x = random.randint(0, GRID_WIDTH - 1)
        y = random.randint(0, GRID_HEIGHT - 1)
        self.position = x * GRID_SIZE, y * GRID_SIZE

    # obstacle 그리기
    def draw(self, screen):
        rect = pygame.Rect((self.position[0], self.position[1]), (GRID_SIZE, GRID_SIZE))
        pygame.draw.rect(screen, self.color, rect)

```

BGM 파일명 변수 정의

Obstacle 객체 생성

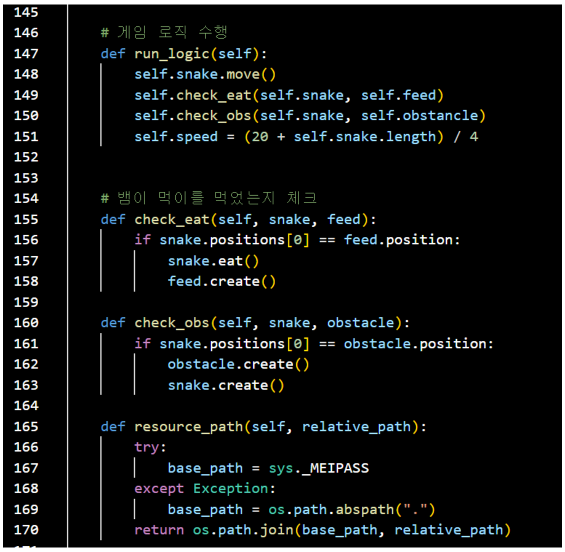
-feed와 같은 방식으로 생성

-색상만 RED로 바꿈



```python
        pygame.draw.rect(screen, self.color, rect)


# 게임 객체
class Game(object):
    def __init__(self):
        self.snake = Snake()
        self.feed = Feed()
        self.obstancle = Obstacle()
        self.speed = 20

    # 게임 이벤트 처리 및 조작
    def process_events(self):
        for event in pygame.event.get():
            if event.type == pygame.QUIT:
                return True
            elif event.type == pygame.KEYDOWN:
                if event.key == pygame.K_UP:
                    self.snake.control(UP)
                elif event.key == pygame.K_DOWN:
                    self.snake.control(DOWN)
                elif event.key == pygame.K_LEFT:
                    self.snake.control(LEFT)
                elif event.key == pygame.K_RIGHT:
                    self.snake.control(RIGHT)
        return False
```

객체 추가를 위해 self.obstacle = Obstacle() 코드 추가

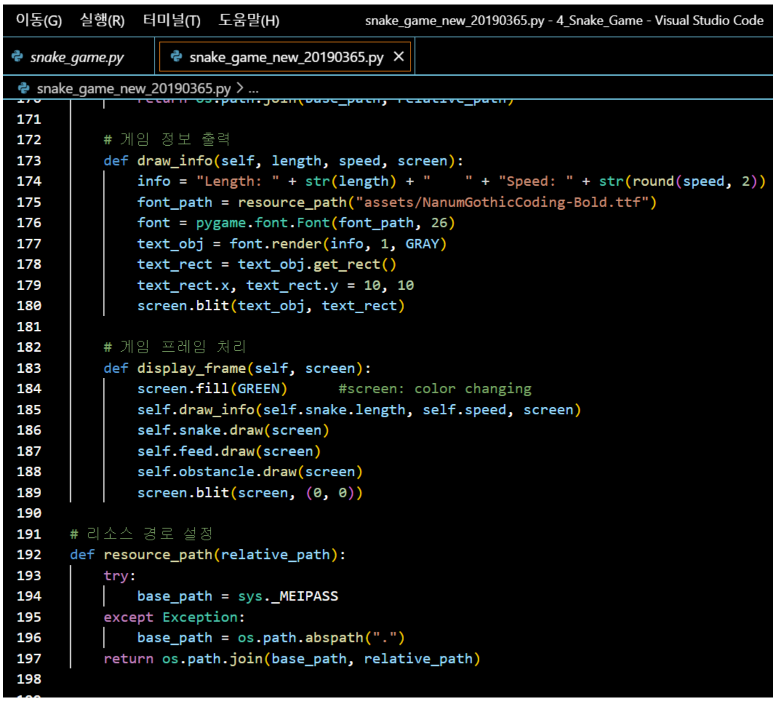


```python
    # 게임 로직 수행
    def run_logic(self):
        self.snake.move()
        self.check_eat(self.snake, self.feed)
        self.check_obs(self.snake, self.obstancle)
        self.speed = (20 + self.snake.length) / 4


    # 뱀이 먹이를 먹었는지 체크
    def check_eat(self, snake, feed):
        if snake.positions[0] == feed.position:
            snake.eat()
            feed.create()

    def check_obs(self, snake, obstacle):
        if snake.positions[0] == obstacle.position:
            obstacle.create()
            snake.create()

    def resource_path(self, relative_path):
        try:
            base_path = sys._MEIPASS
        except Exception:
            base_path = os.path.abspath(".")
        return os.path.join(base_path, relative_path)
```

check_obs 함수

-뱀이 장애물에 닿을 경우 뱀 처음부터 다시 생성

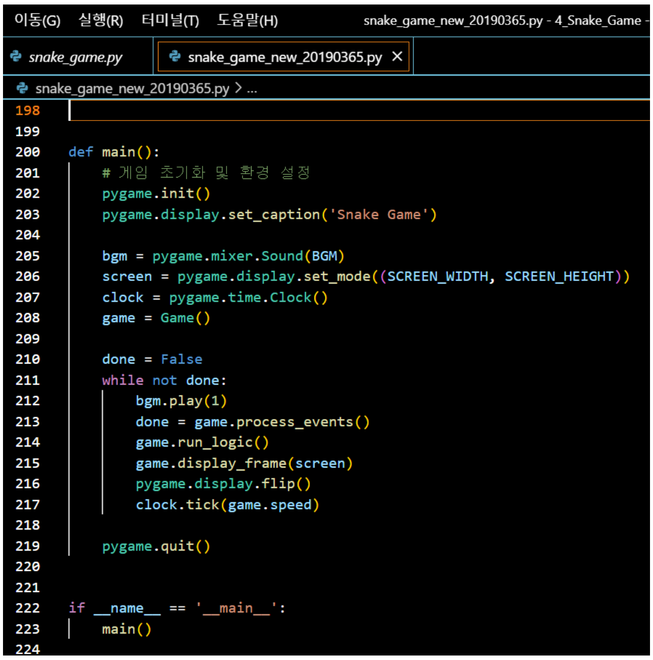
장애물 다시 생성


이동(G) 실행(R) 터미널(T) 도움말(H)
snake_game_new_20190365.py - 4_Snake_Game - Visual Studio Code
snake_game.py
snake_game_new_20190365.py ×
snake_game_new_20190365.py > ...

```python
    # 게임 정보 출력
    def draw_info(self, length, speed, screen):
        info = "Length: " + str(length) + "     " + "Speed: " + str(round(speed, 2))
        font_path = resource_path("assets/NanumGothicCoding-Bold.ttf")
        font = pygame.font.Font(font_path, 26)
        text_obj = font.render(info, 1, GRAY)
        text_rect = text_obj.get_rect()
        text_rect.x, text_rect.y = 10, 10
        screen.blit(text_obj, text_rect)

    # 게임 프레임 처리
    def display_frame(self, screen):
        screen.fill(GREEN)      #screen: color changing
        self.draw_info(self.snake.length, self.speed, screen)
        self.snake.draw(screen)
        self.feed.draw(screen)
        self.obstancle.draw(screen)
        screen.blit(screen, (0, 0))

# 리소스 경로 설정
def resource_path(relative_path):
    try:
        base_path = sys._MEIPASS
    except Exception:
        base_path = os.path.abspath(".")
    return os.path.join(base_path, relative_path)

```

Screen 색상 GREEN으로 변경

Obstacle도 screen에 draw


이동(G) 실행(R) 터미널(T) 도움말(H)
snake_game_new_20190365.py - 4_Snake_Game -
snake_game.py
snake_game_new_20190365.py ×
snake_game_new_20190365.py > ...

```python


def main():
    # 게임 초기화 및 환경 설정
    pygame.init()
    pygame.display.set_caption('Snake Game')

    bgm = pygame.mixer.Sound(BGM)
    screen = pygame.display.set_mode((SCREEN_WIDTH, SCREEN_HEIGHT))
    clock = pygame.time.Clock()
    game = Game()

    done = False
    while not done:
        bgm.play(1)
        done = game.process_events()
        game.run_logic()
        game.display_frame(screen)
        pygame.display.flip()
        clock.tick(game.speed)

    pygame.quit()


if __name__ == '__main__':
    main()

```

mixer.sound 사용하여 BGM 인풋

BGM 무한 재생