Snake::ClassDiagram1

Program
- -Main()

GameInitializer
- -form: Form1
- -music: Music
- +Form_FormClosed(sender: object, e: FormClosedEventArgs)
- +onePlayer_Click(sender: object, e: EventArgs)
- +twoPlayer_Click(sender: object, e: EventArgs)
- +threePlayer_Click(sender: object, e: EventArgs)
- +button1_Click(sender: object, e: EventArgs)

«enumeration» Direction
- Up
- Down
- Left
- Right

BodyPart
- -rectangle: Rectangle
- -point: Point
- +Part: Rectangle
- +PartPoint: Point
- +matrixPoint: MatrixPoint
- +BodyPart(point: Point)

MatrixPoint
- -x: int
- -y: int
- +MatrixPoint(x: int, y: int)
- +override Equals(obj: object): bool

GameEffects
- +soundPlayer: SoundPlayer
- +Source: string
- +GameEffects(source: string)
- -setSource()
- +Play()

Music
- -soundPlayer: SoundPlayer
- -songs: string[]
- -random: Random
- +playing: bool
- +IsPlaying: bool
- +Music()
- +Play()
- +ShuffleMusic()
- +Stop()
- +isPlaying(): bool

Snake
- +snakeBody: List<BodyPart>
- #Direction: enum
- #moveDirection: Direction
- #startPoint: Point
- #multiplier: int = 1
- +Snake(point: Point)
- +MoveSnake()

Player
- -playerKeys: Keys[]
- #score: int
- -brush: Brush
- +timerList: List<Timer>
- -playerID: int
- +Score: int
- +scoreChangeEvent(): event ScoreChangeDelegate
- +Player(keys: Keys[], brush: Brush, startPoint: Point)
- +Player_KeyDown(sender: object, e: KeyEventArgs)
- +activateEffect(mushroom: MagicMushroom)
- +activateEffect(coffee: CoffeeFood)
- +addTimer(food: Food)
- +mushroom_TimerEvent(sender: object, e: EventArgs)
- +coffee_TimerEvent(sender: object, e: EventArgs)

ICollidable
- +Hit(collider: Collider)
- +Remove(collider: Collider)

IDrawable
- +Draw(g: Graphics)

Form1
- -brush: Brush
- -flowLayoutPanel1: FlowLayoutPanel
- -flowLayoutPanel3: FlowLayoutPanel
- -flowLayoutPanel4: FlowLayoutPanel
- -flowLayoutPanel5: FlowLayoutPanel
- -flowPanels: List<FlowLayoutPanel>
- -font: Font
- -foodList: List<Food>
- -playerList: List<Player>
- -label1: Label
- -label2: Label
- -label3: Label
- -label4: Label
- -label5: Label
- -label6: Label
- -playerOneScore: Label
- -playerTwoScore: Label
- -playerThreeScore: Label
- -panel1: Panel
- -panel2: Panel
- -random: Random
- -timer: Timer
- -DrawTimer: Timer {readOnly}
- +activatePlayers(players: int)
- +Form1()
- +form1_KeyDown(sender: object, e: KeyEventArgs)
- +ResetComponents()
- +Player_scoreChangeEvent()
- +Timer_Tick(sender: object, e: EventArgs)
- +panel2_Paint(sender: object, e: PaintEventArgs)

«enumeration» Type
- Standard
- Valuable
- Coffee
- MagicMushroom

Food
- #pos: Point
- -foodRandom: Random
- «enumeration»-Type
- -foodDict: Dictionary<Type, Food>
- +Position: Point
- +Create(): Food
- -CreateFood(): Food
- ~Draw(g: Graphics)
- ~Hit(collider: Collider)
- ~AddEffect(ref playerList: List<Player>)
- ~IncreaseLength(ref player: Player)
- ~IncreaseScore(ref player: Player)

IFoodCollidable
- +Hit(collider: Collider, food: Food)
- +Remove(collider: Collider, food: Food)
- +AddEffect(ref playerList: List<Player>, food: Food)
- +IncreaseLength(ref player: Player, food: Food)
- +IncreaseScore(ref player: Player, food: Food)
- +Draw(g: Graphics, food: Food)

Settings
- +Width [get;set;]
- +Height [get;set;]
- +FPS: int = 10
- +EffectLengthCoffeeFood: int = 5000
- +EffectLengthMushroomFood: int = 3000
- +SpeedChange: int = 2
- +standardFood: int = 1
- +valuableFood: int = 5
- +mushroomFood: int = 10
- +standardLength: int = 1
- +valuableLength: int = 2
- +mushroomLength: int = 5
- +PlayerOne: Keys[4]
- +PlayerTwo: Keys[4]
- +PlayerThree: Keys[4]
- +playerKeys: Keys[3][]
- +PlayerOneInvert: Keys[4]
- +PlayerTwoInvert: Keys[4]
- +PlayerThreeInvert: Keys[4]
- +playerKeysInvert: Keys[3][]
- +playerColor: Brush[3]
- +startLocations: Point[3]

MagicMushroom
- +MagicMushroom()
- -AddEffect(ref playerList: List<Player>)
- ~Draw(g: Graphics)
- ~Hit(collider: Collider)
- ~IncreaseLength(ref player: Player)
- ~IncreaseScore(ref player: Player)

CoffeeFood
- +CoffeeFood()
- -AddEffect(ref playerList: List<Player>)
- ~Draw(g: Graphics)
- ~Hit(collider: Collider)
- ~IncreaseLength(ref player: Player)
- ~IncreaseScore(ref player: Player)

ValuableFood
- +ValuableFood()
- ~AddEffect(ref playerList: List<Player>)
- ~Draw(g: Graphics)
- ~Hit(collider: Collider)
- ~IncreaseLength(ref player: Player)
- ~IncreaseScore(ref player: Player)

StandardFood
- +StandardFood()
- ~AddEffect(ref playerList: List<Player>)
- ~Draw(g: Graphics)
- ~Hit(collider: Collider)
- ~IncreaseLength(ref player: Player)
- ~IncreaseScore(ref player: Player)