|  |  |
| --- | --- |
|  | **Type** |
| boardWidth | Integer |
| boardHeight | Integer |
| birdX | Integer |
| birdY | Integer |
| birdWidth | Integer |
| birdHeight | Integer |
| pipeX | Integer |
| pipeY | Integer |
| pipeWidth | Integer |
| pipeHeight | Integer |
| velocityX | Integer |
| velocityY | Integer |
| gravity | Integer |
| backgroundImg | Image |
| birdImg | Image |
| topPipeImg | Image |
| bottomPipeImg | Image |
| pipes | ArrayList |
| random | Random |
| gameLoop | Timer |
| placePipeTimer | Timer |
| placePipes() | Void |
| paintComponent() | Void |
| draw() | Void |
| move() | Void |
| collision(Bird, Pipe) | boolean |
| actionPerformed(ActionEvent) | Void |
| keyPressed(KeyEvent) | Void |

T dùng AI cho cái dưới

Trên t chỉ liệt kê mấy cái có ra nhu co thôi

Ae xem bảng như này ổn k?

| Class | Attributes | Methods |
| --- | --- | --- |
| FlappyBird | - int boardWidth | - FlappyBird() |
|  | - int boardHeight | - void placePipes() |
|  | - Image backgroundImg | - void paintComponent(Graphics g) |
|  | - Image birdImg | - void draw(Graphics g) |
|  | - Image topPipeImg | - void move() |
|  | - Image bottomPipeImg | - boolean collision(Bird a, Pipe b) |
|  | - int birdX | - void actionPerformed(ActionEvent e) |
|  | - int birdY | - void keyPressed(KeyEvent e) |
|  | - int birdWidth | - void keyTyped(KeyEvent e) |
|  | - int birdHeight | - void keyReleased(KeyEvent e) |
|  | - int pipeX |  |
|  | - int pipeY |  |
|  | - int pipeWidth |  |
|  | - int pipeHeight |  |
|  | - Bird bird |  |
|  | - int velocityX |  |
|  | - int velocityY |  |
|  | - int gravity |  |
|  | - ArrayList<Pipe> pipes |  |
|  | - Random random |  |
|  | - Timer gameLoop |  |
|  | - Timer placePipeTimer |  |
|  | - boolean gameOver |  |
|  | - double score |  |
| [FlappyBird.Bird](https://flappybird.bird/) | - int x | - Bird(Image img) |
|  | - int y |  |
|  | - int width |  |
|  | - int height |  |
|  | - Image img |  |
| [FlappyBird.Pipe](https://flappybird.pipe/) | - int x | - Pipe(Image img) |
|  | - int y |  |
|  | - int width |  |
|  | - int height |  |
|  | - Image img |  |
|  | - boolean passed |  |