PROGRAM FLOW:

- Initialize data segment
- Initialize the extra segment with starting address of video segment for text
- Clear the screen with instruction mov ah,0003h and use this instruction in video mode by setting the whole program to the video mode by the iunstruction
    <center>Int 10h</center>
- Display some introductory strings at welcome screen
    - ✧ Strings name :
    - ✧ Snake_xenzia
    - ✧ Snake_pattern
    - ✧ Instructions (press any key to start the game)
    - ✧ Expects a anonymous character input by the instruction mov ah,07h , the difference between mov ah,01h And mov ah,07 Is that in latter instruction the input will not be saved in al
- After receiving any character , again clear the screen
- Call the function print_box (print the boundaries in 4 different loops)
- Now the main loop of the game begins

Mainloop

Call delay

Overall, this procedure provides a simple and efficient way to create a delay in an x86 assembly language program, using the system timer as a reference.
this procedure uses 1A interrupt.
In other words, it controls the speed of moving snake.

Call writestringat

Here this function is being used to display a string named MSG at position (20,0).. we are storing this position in dx.

Overall this function is making our program capable of taking input at any point in 2d plane from the user all the time in the form of (a,s,d,w), then gives control back to shiftsnake procedure

1 Call readchar

Call shiftsnake

as our program execute , snake starts to move from one position to next in the same direction until a key is pressed.
This function is basically moving the snake in the same direction in it is moving already.
And then it compares the head of the snake with the four possibilities <,>,^,V , and accordingly changes the axis of motion.

After setting the axis of input with readcharat procedure , the proc shiftsnake compare the position of head on different points in order to
- over the game by setting the gameover variable to 1 if the position of head meets with any of four boundaries
- increment in the body of the snake if the position of head and the fruit are the same.

2 Call writecharat

Simpy writes any character at the position stored in dx register, but here it is being used to print the newly added node in the body if the snake has eaten the fruit.

Cmp gameover,1

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Gameover is a variable declared at the start of the program with the value zero,as in the shiftsnake procedure we compared the position and if in the result of any of the four compares the variable has been set to 1 it jmps to gameover_mainloop otherwise calls the keyboardfunctions procedure

Cmp gameover,1

Game_over_main_loop

Clears the screen and increase the delay time to display the game over msg and then moves the flow of program into quit_main_loop

Quit_mainloop

Simply clears the screen and gives control back to dosbox finally

Call keyboardfunctions

First take an input using ReadChar procedure and then Compares the inputted character with expected inputs and then change the head character according to direction

readChar

In the previous procedure named keyboardfunctions, if the user entered 'q' to quit then the variables named quit declared at the start of the program has been set to 1 and if quit is 1 it will further jump to quitpressed_mainloop

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Cmp quit,1

Quitpressed_mainloop

Simpy clears the screen and increase the delay time to display the quitmsg and then moves flow into quit_mainloop

Quit_mainloop

fruitGeneration

There are two variables names fruitx & fruity to save the axis points of the previously created fruit. This function will set the new positions of the new fruit different from the previous one but in the boudaries of the board.

draw

mainloop

This function maintains the score board and updates it when snake eats a fruit. Using three different functions named
- Dispnum (display the number)
- Writestringat (write string at a particular position stored in dx)
- Setcursorposition (set position of cursor in dx)

For random small tasks

Iterates the mainloop until the head of snake touches the boudaries or snakes's body or user presses 'q' to quit the game