CODE EXPLANATION:

Sure! Let's go through the code step by step:

1. The script starts by defining a couple of helper functions. The `check\_sudo` function checks if the script is running with root privileges by comparing the effective user ID (`EUID`) with 0. If it's not running as root, it displays an error message and exits.

2. The `show\_banner` function prints a colorful ASCII banner.

3. The `print\_colorful` function takes two parameters: `color` and `message`. It uses ANSI escape codes to print the `message` in the specified color.

4. The `print\_colorful\_banner` function combines the `show\_banner` and `print\_colorful` functions to print a colorful banner using a specific color.

5. The `show\_menu` function displays a menu with several options for the user to choose from.

6. The script defines several functions for monitoring different network activities, such as `monitor\_tcp\_syn\_requests`, `monitor\_tcp\_reset\_connections`, etc. Each function uses appropriate commands like `tcpdump` or `netstat` to monitor specific network events.

7. The `custom\_port\_scan` function prompts the user to enter specific ports to scan and whether to use the `-Pn` flag in the `nmap` command. It then performs a custom port scan using `nmap`.

8. The `show\_port\_scan\_menu` function displays a sub-menu for port scanning options, including custom port scan, full port scan, and going back to the main menu.

9. The `full\_port\_scan` function prompts the user to decide whether to use the `-Pn` flag and performs a full port scan using `nmap`.

10. After defining the functions, the script displays a list of available network interfaces to choose from.

11. The user selects an interface, and the script retrieves the IP address associated with that interface.

12. The script enters a loop where it displays the main menu and prompts the user for their choice. Depending on the choice, it calls the corresponding function to monitor network activities or perform port scanning.

13. The loop continues until the user selects the "Exit" option.

That's a summary of the script's functionality. It provides a menu-driven interface to monitor various network activities and perform port scanning using commands like `tcpdump`, `netstat`, and `nmap`. The colorful banners and output make the script visually appealing.