Raspberry Pi Cheatsheet

Unique Features

- Credit-card sized single-board computer
- Low cost and low power consumption
- Runs various operating systems, including Linux and Windows 10 IoT
- Provides GPIO pins for hardware interfacing
- Supports camera and display modules
- Popular for educational and hobbyist projects

Basic Usage

- Connect to Raspberry Pi over SSH: `ssh [username]@[ip_address]`
- Access Raspberry Pi desktop remotely: `VNC Viewer`
- Update package list: `sudo apt update`
- Upgrade installed packages: `sudo apt upgrade`
- Shutdown Raspberry Pi: `sudo shutdown now`

GPIO Usage

- Export GPIO pin: `sudo echo [pin_number] > /sys/class/gpio/export`
- Set GPIO direction: `sudo echo [in/out] > /sys/class/gpio/gpio[pin_number]/direction`
- Read GPIO value: `sudo cat /sys/class/gpio/gpio[pin_number]/value`
- Write GPIO value: `sudo echo [0/1] > /sys/class/gpio/gpio[pin_number]/value`

Advanced Usage

- Install software packages: `sudo apt install [package_name]`
- Configure network settings: `sudo nano /etc/dhcpcd.conf`
- Mount external storage devices: `sudo mount /dev/[device_name] [mount_point]`
- Create and run Python scripts: `nano [script_name].py && python [script_name].py`

Resources

- Raspberry Pi Official Website
- Raspberry Pi Documentation
- Raspberry Pi GPIO Pinout
- MagPi Magazine