Problem 1: Shopping for a laptop at most $2000 (including tax)

1. GIGABYTE A5 X1

Source: link

- **CPU:** AMD Ryzen™ 9 5900HX Mobile Processor (3.3 GHz~4.6 GHz)

- **GPU:** AMD Radeon™ Graphics Vega 7 NVIDIA® GeForce RTX™ 3070 Laptop GPU GDDR6 8GB Boost Clock 1560 MHz, Maximum Graphics Power 140 W NVIDIA Max-Q Technologies: Dynamic Boost 2.0 and Optimus™ Technology.

- **Display:** 15.6" Thin Bezel FHD 1920x1080 IPS-level Anti-glare Display LCD (240Hz Refresh Rate)

- **System Memory (RAM):** 2x DDR4 Slots (DDR4-3200, Max 64GB)

- **Storage:**

    - 2x M.2 SSD slots (Type 2280, supports 2x NVMe PCIe Gen3x4 only)

    - 1x 2.5" SATA HDD/ SSD slot (Only supports 7mm or thinner)

- **Battery:** Up to 48.96WHrs

- **Adapter:** 230W

- **Weight:** 4.68 lb

- **Cost:** $1,778.95

2. Alienware m15 R7 Gaming Laptop

Source: link

- **CPU:** AMD Ryzen™ 9 6900HX (8-Core/16 Thread, 20MB Cache, up to 4.9 GHz max boost)

- **GPU:** NVIDIA® GeForce RTX™ 3060, 6 GB GDDR6

- **Display:** 15.6", FHD 1920x1080, 165Hz, Non-Touch, 3ms, Advanced Optimus, CV+, NVIDIA G-SYNC

- **System Memory (RAM):** 32 GB, 2 x 16 GB, DDR5, 4800 MHz, dual-channel

- **Storage:** 1 TB, M.2, PCIe NVMe, SSD

- **Adapter:** 240W Adapter

- **Cost:** $1,999.99

3. Alienware x14 Gaming Laptop

Source: link

- **CPU:** 12th Gen Intel® Core™ i7-12700H (24 MB cache, 14 cores, 20 threads, up to 4.70 GHz Turbo)

- **GPU:** NVIDIA GeForce RTX™ 3060, 6 GB GDDR6

- **Display:** 14", FHD 1920x1080, 144Hz, Non-Touch, 3ms, Advanced Optimus, ComfortView Plus, NVIDIA G-SYNC

- **System Memory (RAM):** 32 GB, LPDDR5, 5200 MHz, integrated, dual-channel

- **Storage:** 1 TB, M.2, PCIe NVMe, SSD

- **Adapter:** 240W Adapter

- **Cost:** $1,899.99

4. Razer Blade 14

Source: link

- **CPU:** AMD Ryzen™ 9 6900HX Processor (8-Cores /16-Threads, 20MB Cache, Up to 4.9 GHz max boost) with Radeon™ 680M Graphics

- **GPU:** NVIDIA® GeForce RTX™ 3060 Laptop GPU, 6GB GDDR6 VRAM, Maximum Graphics Power up to 100W, Boost Clock up to 1605MHz

- **Display:** 14-inch FHD 144Hz, 1920 x 1080 FreeSync™ Premium, Anti-glare finish, Up to 100% sRGB, individually factory calibrated

- **System Memory (RAM):** 16 GB DDR5-4800MHz (Fixed Onboard)

- **Storage:** 1TB SSD (M.2 NVMe PCIe 4.0 x4)

- **Weight:** 3.92 lbs

- **Battery:** 61.6WHr

- **Adapter:** 230W Adapter

- **Cost:** $1,849.99

5. *Gazelle*

Source: link

- **Brand:** System 76

- **Operating System:** Pop!_OS 22.04 LTS with full disk-encryption

- **CPU:** 4.7GHz i7-12700H (up to 4.7 GHz - 24 MB Cache - 14 Cores - 20 Threads)

- **GPU:** 6GB RTX 3060 w/ 3840 CUDA Cores

- **Display:** 15.6"Matte Full HD 1080p (144 Hz)

- **System Memory (RAM):** 32GB Dual Channel DDR4 at 3200 MHz (2× 16GB)

- **Storage:** 2x 500 GBPCIe Gen3 Up to *Seq Read: 3,500 MB/s, Seq Write: 3,200 MB/s*

- **Warranty:** 1Year Limited Parts and Labor Warranty

- **Weight:** 5.07 lbs

- **Battery:** 90WHrs

- **Adapter:** 240W Adapter

- **Cost:** $1,967.00