Problem 2: Shopping for a computer workstation at most $10000 (including tax)

Monitor:

1. **Samsung - 28" 4K UHD IPS AMD FreeSync HDR Monitor - Black**

   Source: link

   Cost: $299

   - **Brand:** Samsung

   - **Refresh Rate:** 60Hz

   - **Maximum Resolution:** 3840 x 2160

   - **Maximum Resolution:** 3840 x 2160

   - **Native Resolution:** 3840 x 2160

   - **Contrast Ratio:** 1000:1

   - **Aspect Ratio:** 16:9

   - **Pixel Density:** 157 pixels per inch

   - **Brightness:** 300 candela per square meter

   - **Response Time:** 4 milliseconds

   - **Panel Type:** IPS

   - **Synchronization Technology:** FreeSync (AMD Adaptive Sync)

   - **Screen Size:** 28 inches

   - **Number of HDMI Inputs (Total):** 2

   - **Number of DisplayPort Ver 1.2 Inputs:** 1

   - **Horizontal Viewing Angle:** 178 degrees

   - **Vertical Viewing Angle:** 178 degrees

- **Touch Screen:** No

Keyboard:

1. **Logitech - K845 Full-size Wired Mechanical Tactile Keyboard - Graphite**

   Source: <u>link</u>

   Cost: $59.99

   - **Brand:** Logitech

   - **Form Factor:** Full-size

   - **Keyboard Technology:** Mechanical

   - **Key Switch Behavior:** Tactile

   - **Wireless:** No

   - **Customizable Lighting:** No

   - **Numeric Keypad:** Yes

   - **Touchpad:** No

   - **Wired Connectivity:** USB Type A

Mouse:

1. **Logitech - M500s Advanced Wired Laser Mouse with Hyper-fast Scrolling - Black**

   Source: <u>link</u>

   Cost: $29.99

   - **Brand:** Logitech

   - **Maximum Sensitivity:** 4000 dots per inch

   - **Number of Buttons (Total):** 7

   - **Wireless:** No

   - **Tracking Method:** Optical

   - **Wired Connectivity:** USB Type

> 💡 **Note:** Monitor, keyboard and mouse will be common for all the workstation. Cost for all this would be around $400.

1. Lambda Vector

Source: link

Cost: ~$9,500.00

- **Brand:** Lambda

- **Operating System (OS):** Ubuntu 22.04

- **Processor:** Threadripper Pro 5955WX 16 cores, 4.0 GHz, 64MB cache, PCIe 4.0

- **GPU:** 3x RTX 3090 NVLinked (2 of 3), 24 GB VRAM each

- **Memory:** 128 GB

- **Operating system drive:** 1 TB NVMe

- **Data drive:** 2 TB SSD (SATA)

2. Precision 7920 Tower Workstation

Source: link

Cost: ~$9,130.00

- **Brand:** Dell

- **Operating System (OS):** Ubuntu 20.04 LTS

- **Processor:** Dual Intel® Xeon® Gold 6234 (24.75 MB cache, 8 cores, 16 threads, 3.30 GHz to 4.00 GHz Turbo, 130W)

- **GPU:** NVIDIA® RTX™ A4000, 16 GB GDDR6, 4 DP

- **Memory:** 64 GB, 8 x 8 GB, DDR4, 2933 MHz, ECC

- **Operating system drive:** Intel NVMe PCIe SSD (Front PCIe FlexBay)

- **Storage Drive Controllers:**

  - M.2 1TB PCIe NVMe SED (OPAL 2.0) Class 40 Solid State Drive

  - Intel Integrated controller (RST-e) with 1-2 Front FlexBay NVMe Drives

- 2 x 2 TB, 7200 RPM, 3.5-inch, SATA, HDD, AG-Enterprise Class

  - 3.5" 1TB 7200rpm SATA Hard Drive

- **Chassis Options:** Precision 7920 Tower Chassis (BC_PCIe) CL FMX

- **Thermal Cooling:** Dual Processor Air Heatpipe

- **Systems Management:** Intel® vPro Technology Enabled

3. AMD Threadripper PRO WRX80 EATX

Source: link

Cost: ~$9,560.00

- **Brand:** Puget Systems

- **OS:** Linux - Ubuntu 22.04 LTS 64-bit Installation

- **Platform:** AMD Threadripper PRO WRX80 Full Tower

- **Motherboard:** Asus Pro WS WRX80E-SAGE SE WIFI (AMD WRX80 EATX)

- **CPU:** AMD Threadripper PRO 5975WX

- **RAM:** 128GB DDR4 ECC

- **GPU:** NVIDIA GeForce RTX 3090 Ti 24GB

- **Storage:** 2 x 1TB Samsung 980 Pro NVM-E M.2 SSD

- **Case:** Fractal Design Define 7 XL (black)

- **Power Supply:** Super Flower Leadex Platinum 1600W (80 PLUS Platinum)

- **CPU Cooling:**

  - Noctua NH-U14S TR4-SP3 (AMD TR4)

  - Case Fans PWM Upgrade Kit

4. *Thelio Massive*

Source: link

Cost: ~$9460.00

- **Brand:** System 76

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

- **Processor:** 2nd Gen Intel® Xeon® 24Cores Gold 6240R (2.4 up to 4.0 GHz - 48 Threads - Max memory speed 2933 MHz)

- **Graphic Card:** 24 GB 2x NVIDIA GeForce RTX 3080 Ti with 20480 CUDA Cores

- **Memory:** 192GB Six Channel Registered ECC DDR4 at 2933 MHz (6x 32GB)

- **Chassis:** HP Z8 G4 90 1125W Chassis 100V/15A

- **Storage:**

    - 250GB M.2 NVMe Up to Seq. Read: 3500MB/s, Write: 2300MB/s

    - 4TB SSD Up to Seq Read: 535 MB/s, Write: 515 MB/s

- **Power Supply:** 1600Watt EVGA SuperNOVA 1600 G2 80 Plus Gold

- **Networking:** 2.4Gbps Wifi 6E and Bluetooth 5.2 Expansion Card

5. Mac Pro

Source: link

Cost: ~$9599.00 (Including keyboard and mouse)

- **Brand:** Apple

- **OS:** MacOS

- **Processor:** 3.3GHz 12-core Intel Xeon W processor, Turbo Boost up to 4.4GHz

- **Graphic Card:** Two Radeon Pro W5700X with 16GB of GDDR6 memory each

- **Memory:** 96GB (6x16GB) of DDR4 ECC memory

- **Storage:** 1TB SSD storage

- **Chassis:** Stainless steel frame with feet

- **Optical Drive:** 9.5mm DVD-Writer 1st Optical Disc Drive