**Overview**

Work individually to understand and establish the specifications for a PC dedicated to a specific task or application.

My PC application topic Is: Photo Editing and Organization

Answering the student questions will help you to develop a deeper understanding of the main components of a personal computer. It will also help you to identify the features that are most important for your specific PC application topic and the features that are nice to have but are not as critical for your topic.

Preparing a brochure explaining your PC application topic and your selection of personal computer components and features will help you to summarize what you have learned from the student questions. The brochure will also help you to share your findings in a “tradeshow” to be held in class.

The date for the “tradeshow” is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student Questions**

1.       Think about your PC application topic. Do some research to find general answers to the following questions.

a.       How important is computer speed for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

Although computer speed is important, it isn’t essential for a photo editing computer to have top speed since there are more important things it needs like a high end graphics card. On the other hand, the computer speed can’t be slow because your always going to be opening, saving, editing, publishing.

b.       How important is data storage for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

Data storage is important for a photo editing computer because you are going to need  to save and store a lot of photos and programs like Adobe Photoshop.

c.        How important is graphics and sound for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

Since it’s a photo editing computer graphics are very important when editing photos, sound is not as important.

d.       How important is internet connectivity for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

To upload, post, publish and networking Internet speed is important for a photo editing computer

2.       CPU Processor Chip

a.       What speed of CPU Chip do you require? (High / Medium / Basic)

b.       Provide an example of a high speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

Intel core i9-9900k,  $639.99, newegg.ca

* Max Turbo Frequency 5.0 GHz
* Intel Optane Memory and SSD Supported
* Intel UHD Graphics 630

d.       Provide an example of a medium speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

Intel Core i7-9700K, $499.99, newegg.ca

* Max Turbo Frequency 4.9 GHz
* Only Compatible with Intel 300 Series Motherboard
* Intel Optane Memory and SSD Supported

e.       Provide an example of a basic speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

Intel Core i5-9600K, $309.99, newegg.ca

* Processor Base Frequency 3.7 GHz
* Intel UHD Graphics 630
* Only Compatible with Intel 300 Series Motherboard

f.         What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.

Intel core i9-9900k,  $639.99, newegg.ca

3.       RAM Memory

a.       What size of RAM Memory do you require? (Large / Medium / Basic)

b.       Provide an example of a large size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# G.SKILL TridentZ RGB Series 288-Pin DDR4 SDRAM DDR4 3200 (PC4 25600) Desktop Memory Model F4-3200C16D-32GTZR,

# $203.99

* Newegg.ca
* 32 GB
* 1.35 voltage

c.        Provide an example of a medium size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# Kingston HyperX Impact Black DDR4 2400MHz CL14 SODIMMs (HX424S14IB/16)

* $98.99
* [https://www.canadacomputers.com](https://www.canadacomputers.com/)
* 16 GB
* 1.2 Voltage
* Speed DDR4 2400MHz

|  |
| --- |
|  |

d.       Provide an example of a basic size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# CORSAIR Vengeance LPX 8GB (2 x 4GB)Model CMK8GX4M2C3000C16

* $65.99
* newegg.ca
* 8 GB
* Speed = DDR4 3000

e.       What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.

# CORSAIR Vengeance LPX 8GB (2 x 4GB)Model CMK8GX4M2C3000C16

* $65.99
* newegg.ca

4.       Graphics Card

a.       What graphics speed and resolution do you require? (High / Medium /Basic - On Motherboard)

b.       Provide an example of a high-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

* PNY GeForce RTX 2080 Ti Blower Graphics card - 11 GB GDDR6 - Black
* $1,750.99
* [www.dell.com](http://www.dell.com)
* Real-Time Ray Tracing
* NVIDIA® GeForce Experience™
* NVIDIA® Ansel
* Vr ready

c.        Provide an example of a medium-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

* PNY XLR8 GeForce GTX 1650 - Overclocked Edition - graphics card - GF GTX 1650 - 4 GB GDDR5 - PCIe 3.0 x16 - DVI, HDMI
* $264.99
* [https://www.dell.com](https://www.dell.com/)
* Based on Turing Architecture
* NVIDIA® GeForce Experience

d.       What would be the least expensive Graphics Card that meets your requirements (or do you just need basic graphics provided by the motherboard)? List the Model Number, Price, and Vendor Source.

* Sapphire PULSE Radeon RX 580, made by Sapphire tech
* $185.00
* Newegg.ca
* 8GB 256-Bit GDDR5
* Boost Clock 1366 MHz
* 1 x DL-DVI-D
* 2 x HDMI
* 2 x DisplayPort 1.4
* 2304 Stream Processors
* PCI Express 3.0.

5.       Sound Card

a.       Do you require special sound support? (High / Medium /Basic - On Motherboard)

b.       Provide an example of a high-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# ASUS STRIX RAID DLX 8 Channels 44.1K / 48K / 88.2K / 96K / 176.4K / 192KHz PCI Express Interface Sound Card

* $311.99
* Newegg.ca
* 8 Channels
* 44.1K / 48K / 88.2K / 96K / 176.4K / 192KHz
* PCI Express Interface

c.        Provide an example of a medium-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

* ASUS STRIX SOAR 8 Channels 44.1K / 48K / 88.2K / 96K / 176.4K / 192KHz PCI Express Interface Sound Card
* $155.99
* Newegg.ca
* 8 Channels
* 44.1K / 48K / 88.2K / 96K / 176.4K / 192KHz
* PCI Express Interface

d.       What would be the least expensive Sound Card that meets your requirements (or do you just need basic sound provided by the motherboard)? List the Model Number, Price, and Vendor Source.

Since the computer is for photo editing it doesn’t need advance sound quality so the one on the motherboard should be good.

6.       Motherboard

a.       Do you require any special motherboard features (based on your answers to the above questions)?

No.

b.       Provide an example of a high-end Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# ASUS ROG Maximus XI Code Z390 Gaming Motherboard LGA1151 (Intel 8th and 9th Gen) ATX DDR4 HDMI M.2 USB 3.1 Gen2 Onboard 802.11 ac Wi-Fi

* $470.99
* Newegg.ca
* Designed for 9th and 8th generation Intel Core processors with dual M.2, USB 3.1 Gen 2, onboard 802.11 ac Wi-Fi and ASUS OptiMem II for better DRAM overclocking stability
* Revamped 5-Way Optimization overclocks intelligently based on smart prediction and thermal telemetry while FanXpert 4 delivers dynamic system cooling
* Dedicated temperature and flow headers as well as AIO pump header for full control when liquid cooling
* Aura Sync RGB lighting with addressable headers features a nearly endless spectrum of colors with the ability to synchronize effects across an ever-expanding ecosystem
* Pre-mounted I/O shield ensures streamlined installation and represents ROG's attention to detail and quality

c.        Provide an example of a basic Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# ASUS PRIME Z370-A II LGA 1151 (300 Series) Intel Z370 SATA 6Gb/s ATX Intel Motherboard

* $1799.99
* Newegg.ca
* Intel Z370
* Intel Socket 1151 9th/8th Gen Intel Core, Pentium Gold and Celeron Processors
* DDR4 4000(O.C)/ 3866(O.C.)/ 3733(O.C.)/ 3600(O.C.)/ 3466(O.C.)/ 3400(O.C.)/ 3333(O.C.)/ 3300(O.C.)/ 3200(O.C.)/ 3000(O.C.)/ 2800(O.C.)/ 2666/ 2400/ 2133

d.       What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.

* ASRock B450M PRO4 AM4 AMD
* Item #  N82E16813157843
* $89.99
* Canadacomuters.com
* 4 288pin memory slots
* supports 64GB memory
* has a Realtek ALC892 audio chipset
* has SATA3 6.0Gb/s Connectors.

7.       HDD (Hard Disk Drive or Solid State Drive)

a.       Do you require any special Hard Disk Drive features (based on your answers to the above questions)?

b.       Provide an example of a high-end HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# Seagate BarraCuda ST3000DM008 3TB 7200 RPM 64MB Cache SATA 6.0Gb/s 3.5" Hard Drive Bare Drive

* $106.12
* Newegg.ca
* Cost-effective storage upgrade for laptop or desktop computers
* Store all your games, music, movies and more with up to 3TB of storage
* SATA 6Gb/s interface optimizes burst performance; 64MB Cache
* 7200 RPM

c.        Provide an example of a basic HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

# WD Blue 1TB Desktop Hard Disk Drive - 7200 RPM SATA 6Gb/s 64MB Cache 3.5 Inch - WD10EZEX - OEM

* $49.99
* Newegg.ca
* Specifically designed for small form factor PC's and Mac PC's
* Performance 3.5-inch hard drive available in up to 1TB capacities
* Designed for creative professionals, gamers and system builders

d.       What would be the least expensive Hard Disk Drive that meets your requirements? List the Model Number, Price, and Vendor Source.

# WD Blue 1TB Desktop Hard Disk Drive - 7200 RPM SATA 6Gb/s 64MB Cache 3.5 Inch - WD10EZEX - OEM

* $49.99
* Newegg.ca

8.       Removable Media (DVD / USB / Flash)

a.       Do you require any special Removable Media features? Explain what extra features are required for your PC application topic.

Yes.

b.       If so, List the Model Number, Price, and Vendor Source for any of these extra features.

* SAMSUNG 64GB BAR Plus (Metal) USB 3.1 Flash Drive, Speed Up to 200MB/s (MUF-64BE3/AM)
* $24.99
* Newegg.ca
* Reliable and secure storage for your photos, videos, music, and files
* Rugged metal casing for durability with key ring to prevent loss
* Safeguard your data (Water proof, shock proof, magnet proof, temperature proof, x-ray proof)
* USB 3.1 flash drive with backwards compatibility (USB 3.0, USB 2.0)

9.       Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth)

a.       Do you require any special Network Interface features? Explain what extra features are required for your PC application topic.

No.

b.       If so, List the Model Number, Price, and Vendor Source for any of these extra features.

10.    Monitor, Mouse, Keyboard

a.       Do you require any special Monitor, Mouse, Keyboard, etc. add-ons? Explain what extra features are required for your PC application topic.

b.       If so, List the Model Number, Price, and Vendor Source for any of these extra features.

BenQ EL2870U 28" (Actual size 27.9") 3840x2160 4K Resolution 60Hz 1ms 2xHDMI DisplayPort AMD FreeSync Technology Built-in Speakers Flicker-Free Low Blue Light HDCP Support Backlit LED Gaming Monitor

* $499.99
* Newegg.ca
* 3840 x 2160 4K Resolution @ 60Hz
* 1ms Response Time
* 2 x HDMI (2.0), DisplayPort (1.4) Video Inputs
* AMD FreeSync Technology
* Built-in 2 Watt Speakers
* 12,000,000:1 Dynamic Contrast Ratio
* 1.07 Billion Color Support
* Flicker-Free Technology
* Low Blue Light Filter
* HDCP Support
* VESA Mount Compatible

# Corsair Gaming K55 RGB Keyboard, Backlit RGB LED

* $69.99
* Newegg.ca
* Three-zone dynamic RGB backlighting with 10+ preconfigured vivid RGB lighting modes allow you to choose immersive lighting effects
* 6 programmable macro keys enable powerful actions, key remaps and combos
* Dedicated Volume and multimedia controls for direct Audio control without interrupting your game
* Quiet and responsive keys give a satisfying feel
* Multi-key anti-ghosting ensures the most accurate simultaneous key presses

# SADES Q6 Gaming mice USB mouse 7 Buttons, 3500 DPI, 4 Optical LED Metal bottom Gaming Mouse

* $24.99
* Newegg.ca

### Comfortable Grip

* DPI switch
* Lighting

11.    Portability / Mobility

a.       Will you be using your PC in one place, do you need some portability, or do you need a high degree of mobility? Explain the need for portability  your PC application topic.

Since it is a photo editing computer, portability is not important.

b.       Do you require a Desktop / Laptop / Notebook or other PC format?

Laptop

c.        How will this affect the cost of your dream machine.

 It will not affect the cost too much because it all depends on model and parts of the laptop/desktop.

1. Rank each personal computer component in order of priority (1-lowest, 10-highest) based on your research above. Each component must have its own priority number… no duplications.
   * CPU Processor Chip 1 2 3 4 5 6 7 8 9 10
   * RAM Memory 1 2 3 4 5 6 7 8 9 10
   * Graphics Card 1 2 3 4 5 6 7 8 9 10
   * Sound Card 1 2 3 4 5 6 7 8 9 10
   * Motherboard 1 2 3 4 5 6 7 8 9 10
   * HDD (Hard Disk Drive or Solid State Drive) 1 2 3 4 5 6 7 8 9 10
   * Removable Media (DVD / USB / Flash) 1 2 3 4 5 6 7 8 9 10
   * Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 1 2 3 4 5 6 7 8 9 10
   * Monitor, Mouse, Keyboard 1 2 3 4 5 6 7 8 9 10
   * Portability / Mobility 1 2 3 4 5 6 7 8 9 10

**Brochure**

Work individually to create a 4 page brochure according to the following guideline.

**Page 1 – Your Application Topic**

Describe your topic and the top PC components for your topic.

Include the following on this page:

* Describe your application topic and how a PC is used
* In general terms, describe what the best PC for this application would look like (e.g. speed vs portability)
* Describe in more detail the top three most important PC components and explain why they are important for your application

**Page 2 – Would-Be-Nice Features**

Describe your decisions about what PC components are less important but would be nice to upgrade if you had the money.

Include the following on this page:

* Describe the would-be-nice components (just below your top 3 priorities) and what your options for upgrading them would be.
* Describe the components / features at the bottom of your priority list and why you would not spend extra money on them.
* Provide some details about different vendors / suppliers and the options they offer.

**Page 3 – Your Budget Machine**

Your budget is $800. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you had to leave out because of budget limitations.

**Page 4 – Your Dream Machine**

Your budget is $2000. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you were able to spend extra on.
* Also comment on any priority components that you had to leave out or down-grade.

**Appendix A: PC Vendors, Parts, & Customization**

Suggested on-line computer sources:

* [www.newegg.ca](http://www.newegg.ca)
* [www.dell.com/en-ca](http://www.dell.com/en-ca)
* [www.tigerdirect.ca/](http://www.tigerdirect.ca/)
* [www.canadacomputers.com](http://www.canadacomputers.com)

**Appendix B: Application Topics**

|  |  |
| --- | --- |
| **Task** | **Student Name** |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |