Buy a Computer Assignment

Choose your assignment

Option 1 (for most students) - Buy a Computer Part by Part - Used Memory Express’ System Configurator to design your computer part by part.

Option 2 (for those who already have a good knowledge of parts) - Deep Dive into a few components.

Option 1: Buy a Computer Part by Part

The first part of the assignment is set up to work at MemoryExpress.com’s System Configurator <http://www.memoryexpress.com/SystemConfig/Default.aspx> but could be completed at other online sites. Memory Express is Canadian so the prices are realistic. The System Configurator will ensure you are buying parts that match up in size, type, pin configuration, etc.

In the tables below, brand refers to the company that makes the part. Type may include the particular model, the technical type or any reasonable interpretation by you.

You have a total of $\_\_\_\_\_\_\_\_\_\_ to spend. Make all the choices within the System Configurator and then put in the info into the table once you are sure that you have enough money.

You may format your answers in any way you feel works.

Processor

| Brand and Model  *Such as Intel i5* | Clock Speed  \_\_\_ Ghz | Cache Size  \_\_\_ MB | Price |
| --- | --- | --- | --- |

Motherboard

| Brand | RAM Type Required (DDR or DIMM, etc.) | Price |
| --- | --- | --- |

Case

| Brand | Price |
| --- | --- |

RAM (Memory)

| Brand and Type | Size  \_\_\_ GB | Price |
| --- | --- | --- |

* Tip for our test: adding RAM is the cheapest way to improve the performance of most PCs

Hard Drive

| Brand and Model | Type (SSD vs HD vs Hybrid) | Size (in GB or TB) | Price |
| --- | --- | --- | --- |

* Tip for our test: Hard drives come in Solid State (no moving parts) and regular. Compared to RAM memory and cache, the Hard Drive is quite slow.

Graphics/Video Card

| Brand | Speed (Choose the clock rate or Engine Speed in MHz) | Memory | Price |
| --- | --- | --- | --- |

Monitor

| Brand | Size | Price |
| --- | --- | --- |

Input Devices

| Brand  1. Keyboard:  2. Mouse: | Price |
| --- | --- |

Operating System

| Brand and Version | Price |
| --- | --- |

Two other Items of your choice (speakers, game controller, virtual reality gear, software, printers, etc.)

| Brand | Type | Price |
| --- | --- | --- |

| Brand | Type | Price |
| --- | --- | --- |

| Total Price: |
| --- |

| The CPU is the brain. The MOTHERBOARD is the spine. The BUS is the highway. The Chipset is like the traffic cops for the motherboard. (search the web for the next two answers)   1. The two chips in the chipset are called the N\_\_ and S\_\_\_ 2. The N\_\_\_ helps with communication between the \_\_\_ and the \_\_\_. (answers are two specific devices that are mentioned earlier in this assignment) 3. The S\_\_\_ helps with communication between all the other components and Input/Output systems in the computer |
| --- |

Option 2: Only for those who do NOT do the above section

If you completed Option 1, you are done! Delete the remainder of this file.

If you did not complete Option 1, delete the above questions and start here.

Part 1: Hard Drives

| What is the difference between the way Solid State Hard Drives (SSD) and Standard Hard Drives (HD) work? Look up an answer then be as technical as you can but use your own words. |
| --- |

| Find a statistic/fact that summarizes how much faster a SSD is than an HD. |
| --- |

By looking at top-of-the-line external SSDs vs external HDDs, compare the cost per gigabyte of each.

| SSD | HDD |
| --- | --- |
| Make and Model: | Make and Model: |
| Size: | Size: |
| Price: | Price: |
| Price per Gigabyte: | Price per Gigabyte: |

| Watch these 2 videos on SSD:   * [What you didn’t know about SSDS Part 1 (4:31)](https://www.youtube.com/watch?v=J9OhVpwx6tA) * [Part 2 (3:53).](https://www.youtube.com/watch?v=rpIA9GAHhA4)   Now that you are fully informed, which of the three types will you likely get on your next computer? Why? |
| --- |

| Find out and describe the process for actually storing the data on a hard drive? Is it done with magnets? Lasers? How does it work? |
| --- |

Part 2 CPUs

Focus on Intel processors for this assignment.

| Explain several differences between the way Intel Pentium i3 vs Intel Pentium i5 vs Intel Pentium i7 processors work. Find some specific stats on the differences. |
| --- |

| What is more important, having more cores or having a higher clock speed? Find a quote to back up your answer. |
| --- |

Find two computers of similar price, one with an i5 and one with an i7. List some key specs in the table below and then recommend one.

| i5 | i7 |
| --- | --- |
| Price: | Price: |
| Clock Speed: | Clock Speed: |
| Cache size: | Cache Size: |

| Your recommendation: |
| --- |

Part 3 - Hardware Details

| What are 2 differences between Cache Memory and regular RAM memory. |
| --- |

| Where is cache physically located within the computer? |
| --- |

| Attached to the motherboard is the chipset. What are the names and roles of the two chips in the chip set? |
| --- |

| If the CPU is the brain, the MOTHERBOARD is the spine. The BUS is the highway. The Chipset is like the traffic cops for the motherboard. (search the web for the next two answers)   1. The two chips in the chipset are called the N\_\_ and S\_\_\_ 2. The N\_\_\_ helps with communication between the \_\_\_ and the \_\_\_. (answers are two specific devices that are mentioned earlier in this assignment) 3. The S\_\_\_ helps with communication between all the other components and Input/Output systems in the computer |
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Part 4: Other Devices

Choose one part or device (graphics cards, game controller, printer, monitor, virtual reality or augmented reality headsets, etc.)

| Your part: |
| --- |

| In your opinion (or in the opinion of experts), what is the most important specification to look for when choosing this part? |
| --- |

Make a comparison of two competing products similar to what you did with processors or hard drives

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