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CS 201

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Homework 1

Algorithm for building a computer:

Steps:

1. Get a price range of how much you want spend
2. Research and choose a CPU
3. “ “ GPU
4. “ “ set of RAM
5. “ “ Powersupply
6. “ “ Monitor
7. “ “ Mouse
8. “ “ Keyboard
9. “ “ Computer Case
10. “ “ Hard Drive
11. “ “ Motherboard
12. “ “ Operating System
13. “ “ Disc Reader
14. Purchase all the components
15. Pickup/get them delivered
16. Open the computer case box
17. take out case
18. unscrew the two thumb screws on the left side panel
19. touch something metal
20. open the motherboard box
21. take out the motherboard
22. use stand off screws included in motherboard box
23. place these screws into the designated holes for the size of your motherboard
24. Screw the screws in
25. Place the faceplate that came in the motherboard box into the slot on the computer case
26. place the motherboard on top of stand off screws and into the faceplate
27. take the screws that go into the stand off
28. screw them into holes provided in the motherboard
29. open the box containing the CPU
30. touch something metal
31. take out the CPU very carefully
32. look for the location on the motherboard where the CPU goes
33. take off plastic cover for the location of the CPU
34. lift latch
35. place CPU carefully in hole, making sure the arrows on both motherboard and CPU are lined up
36. close hatch
37. take out RAM of box
38. find location on motherboard for ram
39. look at motherboard manual for the best slots to use
40. push the levers on each side down
41. place the RAM in the best slots
42. make sure they click into place
43. take GPU out of box
44. touch something metal
45. find location on motherboard for GPU
46. unscrew the thumbscrew(s) for the backplate of the GPU going into the back of the computer case
47. push the lever down for the slot in which the GPU goes
48. take GPU
49. place GPU into slot
50. put a lot of pressure making sure it clicks into place
51. take powersupply out of box
52. look for location to put power supply
53. place powersupply in the location
54. take the screws from the power supply box
55. screw the power supply into place from the backside of the computer case
56. go to the right side of the computer case
57. take off the thumb screws for the right panel
58. take the power cable( the one with the biggest end)
59. run the cable through the opening on the inside of the computer case from the left to right side
60. run it back through to the left side
61. plug the cable into the correct location on the motherboard
62. repeat these same steps for the CPU power cable
63. “ “ GPU power cable
64. Take the audio, speaker, and power button cables from the front of inside of the case
65. plug the cables for audio and speaker into the correct location on the bottom right corner of the motherboard
66. look for all the cables that are connected to the fans in the computer case
67. plug these cables into the fan slots on the motherboard
68. in the CPU box take out the thermal paste tube and CPU fan
69. take a small amount of thermal paste and rub it over the top of the CPU
70. line up the CPU fan with the CPU and the four slots around it
71. slowly place the fan on top the CPU
72. Push the two opposite corner pins into place
73. repeat for the last two pins
74. make sure the fan is secure
75. plug the CPU fan into the dedicated CPU fan slot on the top of the motherboard
76. take out the hard drive from the hard drive box
77. find the slot in the hard drive container for which it shall live
78. remove a single slot
79. take the required screws from the motherboard box for the hard drive
80. screw the hard drive in with the connectors facing the right side of the computer case
81. slide the hard drive in
82. take the cables for the HDD (hard drive)
83. plug the cables into the back of the HDD
84. run the cables from the right side of the computer case to the left side
85. plug the cable into the sata port on the motherboard
86. plug the other cable into the power supply
87. take out the disc reader from the box
88. move to the front of the computer case
89. look in manual how to remove front panel of computer case
90. slide disc reader into that slot
91. get required cables from disc reader box
92. plug cables into the back of the disc reader(inside of the computer case)
93. plug the other end into the sata port into the motherboard
94. plug the other cable into the power supply
95. take the power cable that comes with power supply
96. plug the end into the back of the computer case
97. plug the outlet end into an outlet
98. flip the switch on the back of the power supply to on
99. make sure there is some kind of light on the motherboard indicating that it is receiving power
100. turn off the power supply
101. take the monitor out of the box
102. follow instructions from the manual on how to put the stand on the monitor
103. take the picture cable(hdmi,DVI, VGA, Displayport, etc.) and plug it into the GPU
104. take the power cable that came with the monitor from the box
105. plug the non outlet end into the back of the monitor
106. plug the outlet end into an outlet
107. take the keyboard out of the box
108. take the USB cord on the keyboard and plug it into the USB port on the back of the computer case
109. take out mouse from the box
110. plug the USB cord from the mouse into the back of the computer case in a USB port
111. flip the switch on the back of the power supply
112. now push the power button on the front of the computer case
113. wait in suspense for the BIOS to come up
114. make sure the BIOS show up on the monitor
115. BIOS is just the software that the motherboard has on it to tell the computer where its brain is located
116. take out the operating system disc from the case
117. open the disc reader
118. place the OS(operating system) disc into the reader
119. close the disc reader
120. shut off the computer
121. turn on the computer
122. there will be a section where it says where you would like to have the system boot to
123. select the disc reader as the primary location and the HDD as secondary
124. reboot the computer(turn it off and back on)
125. you should have see the BIOS flash by and the the OS come up with a setup screen
126. Yell in happiness that you have built a working computer!!!!!!!

These steps are truly an algorithm because they satisfy the four requirements of an algorithm. Those four requirements are: well-ordered, well-defined, feasible(meaning it is possible), and take finite time. These steps are well-ordered, well-defined, feasible and it takes a finite time.