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ESP Homework (3)

Question 1

Part A) Look at the following inventors and the list of descriptions below. Match each inventor with the correct description, A–F.

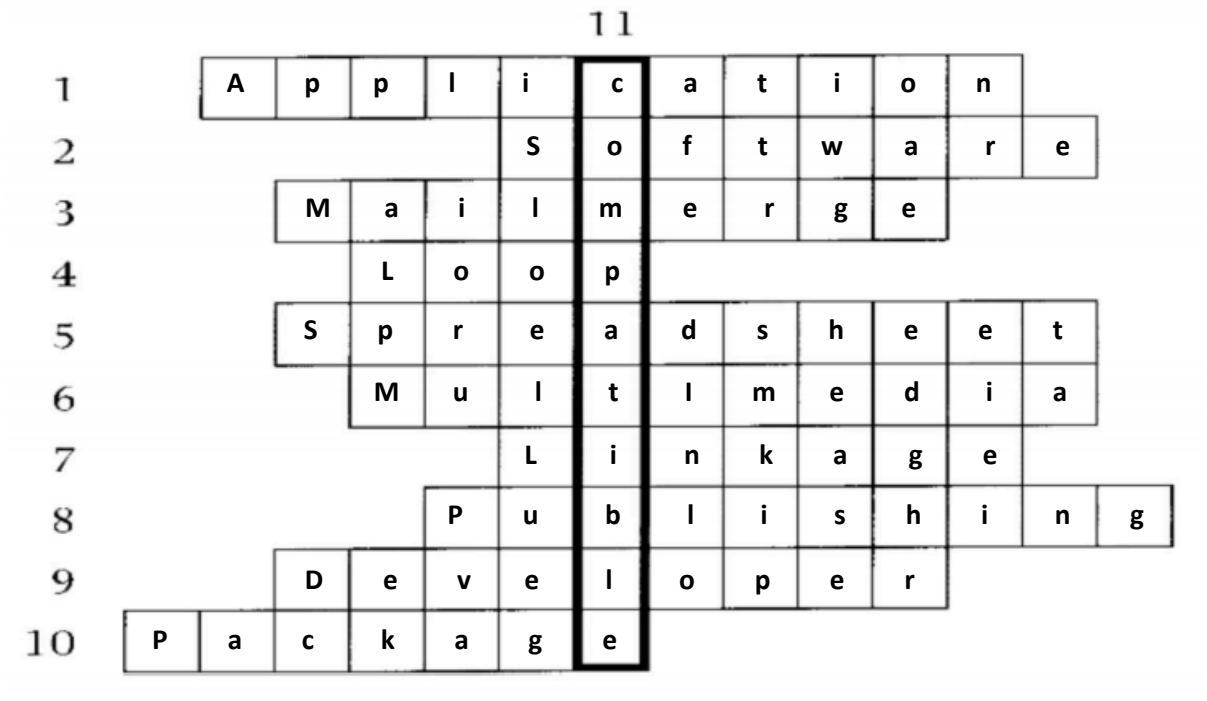
1. Morse: developed a code for transmitting messages by electric cable **(F)**
2. d'Almeida: invented a type of insulation from the sap of a tree **(C)**
3. Field: was the first to attempt to have a transatlantic cable laid **(E)**
4. Kelvin: was the first to be utterly successful in getting the transatlantic cable laid **(B)**

Part B) Complete the summary using words from the list below.

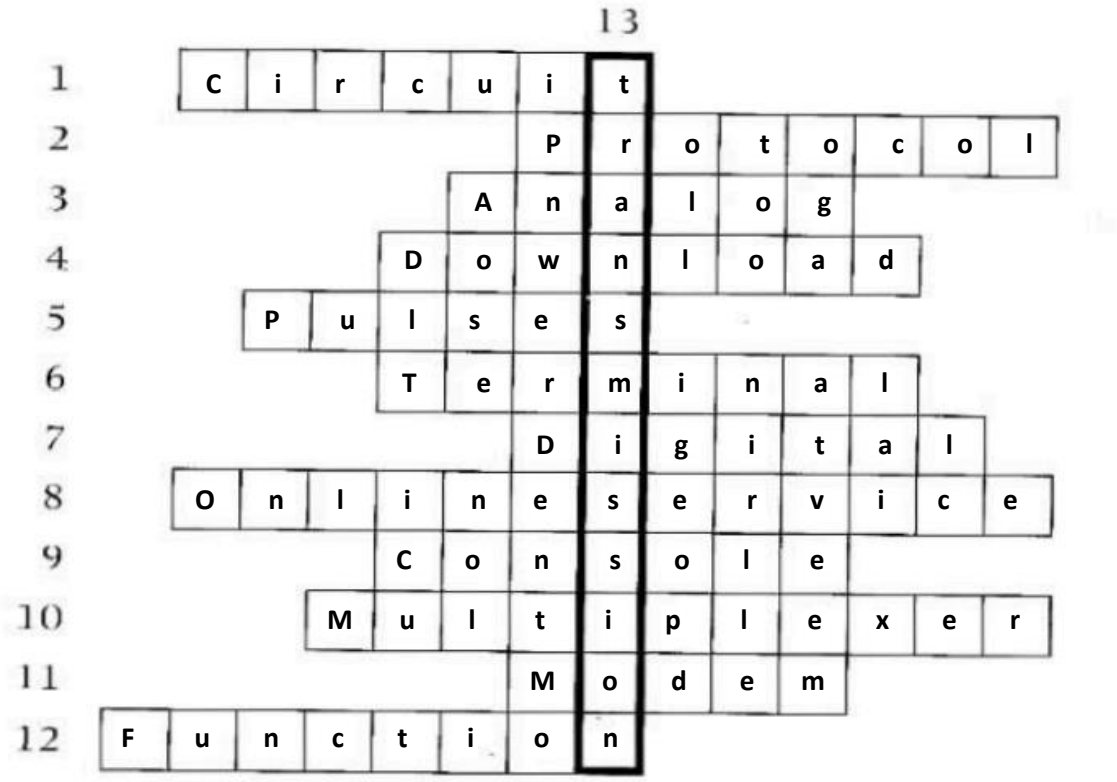
In the 1850s, several unsuccessful attempts were made to lay a telegraph cable across the Atlantic Ocean. For the first attempt, a cable was manufactured of copper and iron wire with gutta-percha **insulation**. It was so heavy that the ships that carried it had to be **towed** by other ships. This cable failed because it **snapped** and sank beneath the sea. The second attempt also failed. The third attempt appeared to be successful, and a message was **transmitted** from England to the United States. However, the telegraph company did not **triumph** this time either. This attempt also turned out to be a failure when the cable stopped working, and the reputations of the project leaders were vilified.

Question 2

Part A)



Part B)



Question 3

Part A) Short-Answer Questions

1. The replacement of bulky vacuum tubes with transistors enabled the transition from first-generation to second-generation computers.
2. process manager & memory manager
3. GNU General Public License, because thousands of volunteer and corporate engineers can inspect, improve and redistribute it.
4. On 4 May 2000
5. They were too slow, complex and unreliable according to the text. Thus their usage in critical systems could have caused serious errors due to their probable inaccuracy.

Part B) Long-Answer / Discussion Questions

1. The Linux kernel is monolithic which means all its components run in a single address space. But it doesn't conclude that it cannot support modular development. Linux supports this development by allowing individual modules to run, extend and update themselves on different subsystems.

2. The ILOVEYOU worm used a simple line of text as its message which seemed to be harmless and socially interesting. All these factors were reasons of its rapid spread all around the world. Modern phishing emails and other malwares also use similar tactics to socially impact users and bypass their defense.

3. Today's smartphones use compact integrated circuits with many transistors to perform billions of operations efficiently while ENIAC was built with vacuum tubes, consumed kilowatts of power and yet could only process a few thousand operations per second. These changes illustrate a revolution from hardware intensive systems to modern computing devices.

Part C) Fill-in-the-Blank Items

1. The first generation of electronic computers relied on **vacuum** tubes for switching.
2. The library that mediates transitions between user space and kernel space in GNU/Linux is called **glibc**.
3. The ILOVEYOU worm was written in the scripting language **VBScript**.

4. Linux originally drew inspiration from a teaching operating system known as **Minix**.
5. In kernel code, the acronym VFS stands for **virtual file system**.

Part D) Multiple-Choice / True–False / Matching

1. B. Virtual File System
2. C. 6 million
3. False
4. Introduction of integrated circuit ---> 1960s
   Deployment of ENIAC ---> 1940s
   Release of Linux 1.0 ---> 1990s
   Popularization of transistor-based computers ---> 1950s
5. C. Exploiting UNIX servers