

1. 2016-1a

Circle or cross: "T" if True – "F" if False.

- T / F** A bus is a CPU system that transfers data between components inside a computer, or between computers (WIKI).
- T / F** Port-mapped I/O uses the same address bus to address both memory and I/O devices (WIKI).
- T / F** The kernel I/O subsystem is the largest part of a kernel system (Silber9).
- T / F** Performance can be improved by utilizing dedicated hardware and hard-coded algorithms (Silber9).
- T / F** Embedded algorithms in a device controller could conflict with the applications, causing decreased performance (Silber 9).
- T / F** Polling for an I/O completion can waste a large number of CPU cycles if the processor iterates a busy-waiting loop many times before the I/O completes (Silber9).
- T / F** DMA (Direct Memory Access) increases system concurrency (Silber9).
- T / F** The STREAMS driver modifies the flow of data between the user interface and the driver (Silber9).
- T / F** Device driver encapsulate device details to avoid uniform device-access interface to I/O subsystem (Silber9).
- T / F** An asynchronous process suspended until I/O completed (Silber9).

2. 2016-1b

Lingkari atau beri silang huruf "B" jika betul, dan "S" jika salah.


```
020 unsigned char* ptrchr = &dummy;
021
022 printeq(LINES);
023 printf(" dummy: %c\n", dummy);
024 printf("*ptrchr: %c\n", *ptrchr);
025 printeq(LINES);
026 printf("%p\n", &ptrchr);
027 printeq(LINES);
028 ptrchr = (char*) &ptrchr;
029 for (ii=0; ii<6; ii++) {
030     printf("%X ", *ptrchr);
031     ptrchr++;
032 }
033 putchar('\n');
034 printeq(LINES);
035 }
```

(a) Write down the output of this program