最多提交2次，以最后提交作为评分依据

1. In a dual-mode (system mode and user mode) system,which of the following components are not necessary?

单选题 (8 分)　　8分

A. A bit in the hardware to indicate the current mode.

B. Privileged instructions.

C. Operating system running in the system mode.

D. Some user programs in the system mode.

正确答案: D

2. Operating system is a set of software for managing_____.

单选题 (8 分)　　8分

A. Computer software

B. Computer hardware

C. Computer resources

D. Application programs

正确答案: C

3. This type of program acts as an intermediary between auser of a computer and the computer hardware.　回答错误

单选题 (8 分)　　0分

A. operating system

B. user thread

C. application program

D. superuser thread

正确答案: A

4. Which of the following statement is incorrect?　回答错误

单选题 (8 分)　　0分

A. Monolithic OS is usually difficult to modify

B. Micro-kernels allow some system services to be implemented just as user programs

C. Layered OS is more efficient than monolithic OS

D. Virtual machines improve OS development and testing process

正确答案: C

5. The context-switch causes overhead by OS. The action affects many objects, but __ is **not** included.　回答错误

单选题 (8 分)　　0分

A. register

B. global variable

C. stack

D. memory

正确答案: B

6. Which of following operations will make a process change statement from user mode to kernel mode?
I. Divide byzero　II. Call sin() function　III. system call read

单选题 (8 分)　　8分

A. Only I andII

B. Only II and III

C. Only I and III

D. I, II and III

正确答案: C

7. 一个进程的读磁盘操作完成后，操作系统针对该进程必做的是____。

单选题 (8 分)　　8分

A. 修改进程状态为就绪状态

B. 降低进程优先级

C. 为进程分配用户内存空间

D. 增加进程的时间片大小

正确答案: A

8. 下列选项中会导致进程从运行状态变为就绪状态的事件是_____.

单选题 (8 分)　　8分

A. 执行P(wait)操作

B. 申请内存失败

C. 启动I/O 设备

D. 被高优先级进程抢占

正确答案: D

9. 若一个用户进程通过read系统调用读取一个磁盘文件中的数据，则下列关于此过程的叙述中，正确的是____。

    I. 若该文件的数据不在内存，则该进程进入等待状态

    II.请求read系统调用会导致CPU从用户态切换到核心态

    III. read系统调用的参数应包含文件的名称   回答错误

单选题 (8 分)　　0分

  A. 仅I、II

  B. 仅 I、III

  C. 仅 II、III

  D. I、II和III

  正确答案: A

10. Which of the following is most likely to be a system call?

单选题 (8 分)　　8分

  A. The implementation of a *while* loop in C.

  B. Parse a token from a string.

  C. Get the cosine of a number.

  D. Get the time of day.

  正确答案: D

11. Using the program shown in Figure ,explain what the output will be at lines X and Y.

```c
#include <sys/types.h>
#include <stdio.h>
#include <unistd.h>
#include <wait.h>
#define SIZE 5
int nums[SIZE] = {0,1,2,3,4};
int main()
{
int i;
pid_t pid;
pid = fork();
if (pid == 0) {
  for(i = 0; i < SIZE; i++) {
   nums[i] *= -i;
   printf("CHILD: %d ",nums[i]); /* LINE X */
  }
printf("\n");
}
else if (pid > 0) {
 wait(NULL);
  for(i = 0; i < SIZE; i++)
   printf("PARENT: %d ",nums[i]); /* LINE Y */
  printf("\n");
}
return 0;
}
```

运行上面程序后结果如下，请依次填写空格的值。

CHILD: _____ CHILD: _____ CHILD: _____ CHILD:_____ CHILD: _____
PARENT: _____ PARENT: _____ PARENT: _____ PARENT: _____ PARENT: _____

填空题 (20 分)　　12 分　　(请按题目中的空缺顺序依次填写答案)

(1) `0`

(2) `-1`

(3) `-4`

(4) `-9`

(5) `-16`

(6) `0`

(7) `-1`　　　　　　回答错误

(8) `-4`　　　　　　回答错误

(9) `-9`　　　　　　回答错误

(10) `-16`　　　　　　回答错误

正确答案:

(1) 0

(2) -1

(3) -4

(4) -9

(5) -16

(6) 0

(7) 1

(8) 2

(9) 3

(10) 4