

OSW QUIZ NOVEMBER-2023

Operating System Workshop (CSE 3541)

Programme: B.Tech. (CSE - N)

Full marks: 30

Date: 27/11/2023

Semester: 5th

Quiz no.: 03

Time: 02 Hrs

NB : All codes must be written using C language.

1. (a) Write a C function to print the binary equivalent of a decimal number using recursion.
- (b) Find the output of the following code segment and discuss the reason behind the obtained output.

```
#include<stdio.h>
int main(){
    float a=1.2;
    if(a==1.2) printf("C\n");
    else printf("U\n");
    return(0)
}
```

- (c) Write a C function to concatenate two strings without using any inbuilt concatenation functions (to allocate memory use malloc() funtion).
2. (a) Write a C program to find the sum of two floating point numbers given in command line argument.
 - (b) Fill in the blanks so that the final out put will be "01":

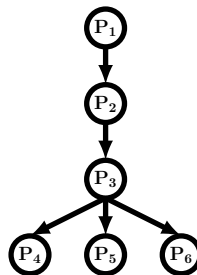
```
#include<stdio.h>
#include<string.h>
int main(){
    char str[20]="Dibya;01-12-1990";
    char *rem, *ptr;
    ptr = strtok_r(____ , ____ , ____ );
    ptr = strtok( ____ , ____ );
    printf("%s\n",ptr);
    return(0);
}
```

- (c) Write a C function to find reverse of a string using pointers and without using any inbuilt function.

3. (a) Find the output of the following code segment. If there is any runtime or compilation error, then mention the exact reason of the error.

```
#include<stdio.h>
#define SWAP(a, b, c) {c t; t=a; a=b; b=t;}
int main()
{
    int a=12, b=15;
    float c=2.0, d=3.0;
    SWAP(a,b, int);
    SWAP(c,d, float);
    printf("a=%d; b=%d\n", a,b);
    printf("c=%f; d=%f\n", c,d);
    return(0);
}
```

- (b) Write a C program to tokenize the date in given form “dd-mm-yyyy” and print the month name in words.
- (c) Write a C program to remove the duplicate numbers from an array.
4. (a) What is the difference between process and program? Write a short note on fork system call.
- (b) Draw a neat diagram for the layout of process image. With an example show how the uninitialized and initialized static data affect the executable size.
- (c) Write a code to generate the following correlated processes where arrow indicate parent child relation. Make sure no zombie process will not be created.



5. (a) What is a zombie process? Write a C code to create a zombie process. Modify the same code to avoid the creation of zombie process.
- (b) What is an orphan process. Explain with a example code.
- (c) Draw the diagram of the argument array prepared by the shell given to
`int main(int argc, char *argv[])`
for the command line
`$/a.out ``usp dos" SOA iter CSE.`

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