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CONTINUOUS ASSESMENT FOR C LANGUAGE

Academic Year 2019/2020
Class: B1A & B1B
Instructor: Mr NDENGE

CA no 1
Documents are not authorized
Duration: 2 hours 10 minutes

Exercise 1: (3 mark)

estimated time: 10 minutes

- What is the meaning of GCC (0.25 mark)
- What are the various steps involve during the compilation of a c program with GCC (1 mark)
- For each step above give its corresponding input and output file extension (1.75 mark)

Exercise 2: (3 mark)

estimated time: 22 minutes

Write down the definition of the variables or prototypes of the following functions:

- p is a pointer to a 10 by 10 array of integer;
- t is a one dimensional array of 5 integers whereby the first three elements are initialized with the values 1, 2 and 3;
- f is a function that takes an integer and a double as arguments and returns a pointer to an integer;
- t is a 3 by 2 bi-dimensional array of integer whose first column is initialized with 0 and the second with 1;
- p is a pointer to a function that takes as parameter a double and returns an integer;
- p is a pointer to an array of pointers of functions that receives as argument an integer and returns nothing.

Exercise 3: (3 marks)

estimated time: 22 minutes

Analyze the following program and give the series of output displayed at the end of the execution

```
int f1 (int i) { return (i+1); }  
int f2 (int i) { return (i ++); }  
int f3 (int i) { printf ("%d\n", (i == 0)); return (i); }  
int f4 (int i) { printf ("%d\n", (i = 0)); return (i); }  
int f5 (int * i) { return (++ (*i)); }
```

```
int f6 (int * i) { (*i) ++; return ((*i)++) ; }
```

```
int mian()
```

```
{
```

```
int a, b;
```

```
a = f1 (0) ; b = f2 (1); printf (" a = %d, b = %d\n", a , b );
```

```
a = f3 (a) ; b = f4 (a); printf (" a = %d, b = %d\n", a , b );
```

```
a = f5 (&a) ; b = f6 (&a); printf (" a = %d, b = %d\n", a , b );
```

```
}
```

Exercise 4: (4 marks)

estimated time: 21 minutes

Identify the errors and rewrite the program correctly

7. #include<stdio.h>

8.

9. int main(void)

10. {

11. char * mystring, pass_word = "My2Pass";

12. scanf("%s",mystring);

1. if (mystring == pass_word)

2. printf("You can cross over. \n")

3. else

4. printf(" Wrong password\n);

5. return (1);

6. }

Exercise 5: (7 marks)

estimated time: 50 minutes

For the upcoming African nations cup 2021 hosted by Cameroon, the technical staff of the Indomitable lions will be required to calculate the play time of each of the 23 players who shall be called up for this expedition. The play time of each player will be measured in minutes, seconds and milliseconds. We are asked to write a C program that will be used to enter the play time of each player of the team and which at the end gives the total play time of a player for the first 3 matches of the 1st round. The duration (minutes, seconds and milliseconds) is represented by a structure to be defined.

- 5.1 Give the definition of the structure type Stopwatch (1 mark)
- 5.2 Write a procedure StopwatchRead() which will be used to enter the play time of each player (1 mark)
- 5.3 Write a procedure StopwatchWrite() that will be used to display the play time of each player (1 mark)
- 5.4 Write a function StopwatchCalcul() that will be used to calculate the play time of a player (1 mark)
- 5.5 Write the main program that uses the structure type, the procedures and the functions written above to realize the needs of the technical staff of the indomitable lions. (3 marks)