ESC101 - QUIZ 1 Session 2

Total points

The quiz will be conducted in two sessions of 20 minutes each with a gap of 10 minutes in between two sessions.
Read all instructions mentioned in the problem statement carefully before attempting it and try to keep your answers precise. Make sure to submit your response on time. Auto-submission is not available and if you fail to submit on time, you will get zero marks.
If there are any issues like internet/power outage contact your Tutor ASAP.

Email address *

harshitr20@iitk.ac.in

0 of 0 points

Name *

Harshit Raj

Roll no *

200433

Problem 4

5 of 5 points

Complete the following function, fib, to calculate n-th number of this Fibonacci series 1,1,2,3,5,8 ...

Code

```
1. #include<stdio.h>
2.
3. int fib(int n){
4. int a=1,b=1,c;
5. if(______) return 1;
6.  for (int i=0;i<_______;i++){
7. _____________;
8. _____________;
9. _____________;
10.   }
11.   return c;
12.   }
```

✓ Line 5 1/1

(n==1)||(n==2) ✗

Correct answers

n<3

n < 3

✓ Line 6 1/1

n-2 ✓

✓ Line 7 1/1

c=a+b ✓

✓ Line 8 1/1

a=b ✓

✓ Line 9 1/1

b=c ✓

Problem 5 5 of 5 points

In the following questions, predict the output. If no output is printed, write “NO OUTPUT”. If the program runs into compilation error, write “ERROR”. If the program results in an infinite loop, write “INFINITE LOOP”.

✓ 5.a. 1/1

```
#include<stdio.h>
int main(){
    int i;
      if(true)
            printf("True");
      else
            printf("False");
    return 0;
}
```

ERROR ✓

✓ 5.b. 1/1

```
#include<stdio.h>
int main(){
    int i;
      if('True')
            printf("True");
      else
            printf("False");
    return 0;
}
```

True ✓

✓ 5.c. 1/1

```
#include<stdio.h>
int x = 1;
int main(){
     while(!x+=1 == 1)
           printf("loop");
     return 0;
}
```

ERROR ✓

✓ 5.d. 1/1

```
#include<stdio.h>
int main(){
      while(printf("%d", 5) < 4)
            printf("Loop ");
      return 0;
}
```

INFINITE LOOP

✓ 5.d. 1/1

```
#include<stdio.h>
int main()
{
    int i = 0;
    while(i < 4, i>=4)
    {
       printf("Loop ");
       i++;
    }
    return 0;
}
```

NO OUTPUT ✓

Correct answer

NO OUTPUT

Problem 6 2 of 2 points

✓ Write the output of the following C program. 2/2

```c
#include <stdio.h>

int main()
{
    int i,j;

    for (i = 0; i < 6; i++)
    {
        for (j = 0; i < 3; i++)
        {
            printf("%d ", j);
        }
    }

    return 0;
}
```

0 0 0 ✗

Correct answer

0 0 0

Problem 7 — 4 of 4 points

We are trying to find if a number is a perfect number or not. A positive integer is called a perfect number if the sum of proper divisors of that number is equal to the number itself. The proper divisors of a number are all those numbers, except the number itself, which divide that number. Thus, 1 is a proper divisor of every number but 1 itself. For example, the proper divisors of 6 are: 1, 2, and 3. Clearly, 6 = 1 + 2 + 3. Thus, 6 is a perfect number.

Complete the following code so that it outputs YES if the input positive integer is perfect and NO otherwise.

```
#include <stdio.h>

int main(){
    int a, i;
    long sum = 0;
    scanf("%d", &a);

    if(a != 1)
        ........;
    for(i = 2; ......; i++)
        if(........)
            sum += i;
    if(........)
        printf("YES");
    else
        printf("NO");

    return 0;
}

```

✓ Line 9 1/1

sum=1 ✗

Correct answers

sum = sum + 1

sum +=1

sum=sum+1

sum+=1

✓ Line 10 1/1

i<a ✓

✓ Line 11 1/1

a%i==0 ✓

✓ Line 13 1/1

sum==a ✓