Daffodil International University

Department of Computer Science & Engineering
Faculty of Science & Information Technology
Mid-Term Examination **Semester: Fall 2020**
Course Code: CSE 122 **Course Title: Programming & Problem Solving**
Section: All **Batch: Day**

Time: 2.0 hours **Full Marks: 25**

Answer all of the following Questions

Part – I(Expression Evaluation): Evaluate the following expressions in detailed steps using last 4 digits of your ID as value of A, B, C & D consecutively and for value of E add first 3 digits of your ID. **If your ID is 201-15-9892 then A=2, B=9, C=8, D=9 & E = 3 (i.e 2+0+1 = 3). If there is a 0 in any of the values then replace it with 9.** Remember all the variables here are integers and for every equation the initial value of A, B, C, D & E are the same. **Write each variable's value after every evaluation.**	**[3.0]**
a) **D += E + (+ + A / B + +) * C % 1 - D / 1** b) **G = A && C & (B*E) || D | (!D)** c) **E *= A > = B ? (C * D) : (E * D)**	[1] [1] [1]
Part – II(Error Finding & Bug Fixing):	**[6.0]**
a) Mention how many errors you can find in the following code. Explain the errors as per your understanding with line no. and why you think it as an error ***[If you write the exact errors like a compiler it will not be counted]***. 1. **#irclude<stdio.h>** 2. **void main(void) {** 3. **int a = 48 ;** 4. **while(a < 100)** 5. **float b = a ++ ;** 6. **pnintf ("The value of a = "%c" and b = " %010d"\n," b , a)** 7. **// /* printf (nothing). /* ;** 8. **return 100 ;** 9. **}**	[4]
b) Rewrite the code without any errors.	[2]
Part – III (Output Tracing):*[If you are asked to take input from user then the input will always be the last two digits of your ID.]*	**[4.0]**

a)
#include<stdio.h>
int main() {
int ID; // the last four digit of your Id
scanf("%d", &ID);
while(++ID/=3);
{
printf("Sir!. My ID is %05d\n\tI am Inside Loop\n",ID);
}
return 0;
}
	[2+2]

b)

```
#include<stdio.h>
int main()  {
   int ID;  // the last two digit of your Id
   scanf("%d", &ID);
   ID = (ID%5) + 3;
   while(ID--){
      for(int hello = 1; hello < 5; hello*=2)
      {
         if(ID%2 == 0) continue;
         printf("!Double Trouble without break!\n");
      }
      if(ID%2 ==1) printf("\t");
   }
return 0;
}
```

Part IV(Full Program Writing): [12.0]

*[**Please read notes very carefully for each problem.**]*

a) Due to Corona we are unable to conduct our classes without online platform. For this reason most of the time we cannot introduce ourselves properly in the class. So, can you write a program to introduce yourself using a minimum of 3 lines introduction. In the first line explain your name and current location like "**I am Your_Name from Your_City, Your_District.**" In the 2nd line your hobbies like "**My hobbies are Your_hobbies.**" and in the 3rd line your future goal like "**My aim in life Your_aim_in Life.**" [4.0]

Sample Input	Sample Output
NO INPUT	**I am Corona from unknown city, unknown district.** **My hobbies are Infecting people, kill unhygienic people etc.** **My aim in life is to make the world people less.**

b) Last night when I went to sleep I had the weirdest dream of my life. In my dream a shining figure came to me (I was unable to see the face due to the light) and told that I can measure the CORONA positivity or negativity if I had a Student ID of DIU CSE Department. Do you want to know how! Every Student ID in DIU CSE has three parts separated by two '–'symbol like **201-15-909999.** Take the last part i.e. **909999** and mod this value with the ASCII value of each of the character of **CORONA** and **add 15** each time with the mod value. **If any of the value is greater than 100** then you are **CORONA POSITIVE**. Otherwise **CORONA NEGATIVE**. The ASCII value of the character **'A' is 65**. [4.0]

Input: You Full ID. Example: 191-15-109899

Output: "CORONA POSITIVE!" If the value is greater than 100. **"! CORONA NEGATIVE! "** Otherwise.

[NOTE: Output the Red colored text only.]

Sample Input	Sample Output
191-15-109899	! CORONA NEGATIVE!

GOOD LUCK 

c) You and Your friend are stuck in your house due to CORONA. Both of you are bored. So, your Friend came up with a brilliant idea. He will tell you a number **N** in between 1 to 99 and you will tell a number **M** greater than 99 and below 1000. Then add both of the number **game_num** (**not mathematical addition. It's like string addition**). Then show the reversed binary of the new number. If the number of zero in that number is greater than number of one your friend wins. You win if the count of one is greater. The game will end in a draw if both are same. [4.0]

Input: Two integer numbers N and M where 1 < = N < = 99 and 99 < M < 1000.

Output: Two lines of output. In the first line show **the reversed binary number of game_num** and **a message in the second line**. Depending on the Game if your friend wins then the message is **"DUSTO tumi Jitso."** If you win then the message is **"Jitsi re jitsi. Eibar ami Jitsi!"** and the message is **"Ei jah! Draw Draw Draw reeee!"** if the game is a draw.

Sample Input	Sample Output
8 888	00011101010001 DUSTO tumi Jitso.

NOTES: Here the first number is **8** and the second number is **888.** So the game_num is **8888**. Now the binary of this number is **10001010111000.** So the reversed binary of game_num is **00011101010001.** In this number there are a total of 8 zero and 6 one. So according to the condition my friend wins.