Bahria University, Islamabad Campus

Department of Computer Science

Final Term Examination

Section: 1C

(Fall 2022 Semester)

Paper Type: Descriptive

Course:	Computer Programming Lab	Date: 16-November-2022
Course Code:	CSC-113	Time: 120 minutes
Faculty's Name:	Rabail Zahid	Max Marks: 40
Time Allowed:	120 minutes	Total Pages: 6

DO NOT OPEN THE QUESTION BOOK OR START UNTIL INSTRUCTED.

INSTRUCTIONS:

1. The final exam will be attempted offline.
2. Attempt on question paper. Attempt all of them. Read the question carefully. Understand the question, and then attempt it (Understanding the question paper is also part of the exam, so do not ask any clarification.)
3. No additional sheet will be provided for rough work. Use the back of the last page for rough work.
4. If you need more space write on the back side of the paper and clearly mark question & part number etc.
5. After asked to commence the exam, please verify that you have 6 different printed pages including this title page. There are a total of 5 questions.
6. Calculator sharing is strictly prohibited.
7. Use permanent ink pens only. Any part done using soft pencil will not be marked and cannot be claimed for rechecking.
8. Failure to observe above mentioned instructions will lead to disqualification in Exam

Signature of Invigilator

Student Name Roll No Section Signature

CLO Mapping	2	1	1	3	3	
Total Question	Q-1	Q-2	Q-3	Q-4	Q-5	Total
Marks Obtained						
Total Marks	10	5	10	5	10	50

Question 01 **[10 marks]**

Write a pseudo code that takes three inputs from the user: a number x, a number y, and a number k (assume that these numbers are never negative). The program then finds out whether the kth digits of both x and y are the same. We count the digits from right to left. The right most digit is at k=0; the second digit from the right is at k=1; the next digit is at k=2, and so on. The program should print "kth digit is the same" if the kth digits of x and y are the same and "kth digit is not the same" otherwise. Some example inputs and outputs:

Input	Output (on screen)	Note
x = 578, y = 72, k=1	"kth digit is the same"	both are 7
x= 0, y = 1280, k=0	"kth digit is the same"	both are 0
x= 8, y = 1808, k=2	"kth digit is not the same"	2nd digit of y is 8, but x does not have a 2nd digit
X=1156, y =1808, k=3	"kth digit is the same"	both are 1

Question 02 **[3 marks]**

Identify syntax errors in the following C++ program and suggest appropriate correction for each error.

1.	#include<iostream> using namespace std;
2.	int main() {
3.	int x = 10, m = 50, i=0;
4.	if ((0 <= x <= 30) && (m >= 0) {
5.	while (i < x) {
6.	if (i >= 3 || m > 5); {
7.	i = i - 2;
8.	}
9.	else {
10.	if(i == 0) {
11.	cout << "i is 0";
12.	else
13.	cout << "i is 1";
14.	}
15.	}
16.	}
17.	}
18.	} }

Correct all errors logical, or syntax in following code. **[2 Points]**

```
int main(){

        int value = 10;
        int number = 19;
        do {
                cout << number << " " << Value << " " << endl;
                value++;

        } while ((value < 11) || (number > value % numebr));
}
```

```
#include <iostream>
using namespace std;

int main()
{
   integer TC,FH;
   cout<<'Temperature IN';
   cin<< T;
   F<< 9\5.0* T+32
   COUT >> "Temperature OUT"<<F<Endl
Return 0;
}
```

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Question 03

What is the output of following codes? **[3+2+3+2 Points]**

int main()
{
int n = 5;
for (int i = 0; i < n / 2; ++i)
{
cout << i - 2 * n;
}
return 0;
}	

int main()
{
int x = 12, y = 10, z = 5;
cout << (--x < y) || x/--z + 4 <= 8 && z < y++ - x;
return 0;
}	

int n = 5;
for (int i = 0, j= n-1; i < n; i++, j-=2)
{
cout << ":";
if (j>i++)
cout << "|";
else if (j >=n - i)
cout << ")";
else
cout << "(";
cout << "endl \n";
}	

int n = 7;
int A[7] = { 2, 5, 6, 7, 11, 1, 3 };
int temp, j;
for (int i = 1; i<n; i++){
temp = A[i];
for (j = i - 1; j >= 0 && A[j] >temp; j--){
A[j + 1] = A[j];
cout << A[j]<<" ";
}
A[j + 1] = temp;
cout << "|| ";
}
cout << endl;
for (int i = 1; i<n; i++)
cout<<A[i] << " ";	

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Question 04 **[5 Points]**

Dry run the following pseudo code and write

```
1.  Set size to 2
2.  Set z to 1
3.  Set i to 0
4.  While i<=size
5.  Begin
6.      Set k to 1
7.      While k<=z
8.      Begin
9.          Output  k
10.         Set k to k+1
11.     End
12.     Set z to z+1
13.     Output "*"
14.     Set j=size
15.     While j>i
16.     Begin
17.         Output j
18.         Set j to j-1
19.     End
20.     Output "*"
21.     Move to next line
22.     Set i to i+1
23. End
```

Question 05 **[10 Points]**

Part-a) Declare three integer arrays of size 20 i.e. A[], evenarray[] and oddarray[]. Take values in A from the user. Your task is to Identify the even values in A and store them in evenarray[] and odd numbers in oddarray[] . Display evenarray and oddarray. After that find prime numbers in odd array and display them on console.

Sample Output:
A: 24,26,3,7,21……,19
Even array: 24,26….
Odd array: 3,7,21,19,…….
Prime Numbers in odd array: 3,7, 19…..

Part –b) Draw the flow chart of the above C++ code that you generated in Part-a.

End of Question Paper