National University of Computer and Emerging Sciences

Lab Manual

for

Programming Fundamentals

Course Instructor	Dr. Asma Naseer
Lab Instructor(s)	Ms. Huda Mr. Fareeha Ashfaq
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Department of Computer Science

FAST-NU, Lahore, Pakistan

Objectives:

In this lab we will learn

- User Defined Functions

Sample Codes:

Sample Code 1:

```
#include<iostream>
using namespace std;
void myfirstfunction(){
     cout<<"This is my first function"<<endl;
}
int main(){
//function calling
     myfirstfunction();
return 0;
  }
```

Sample Code 2:

//Code for calculation power with positive value of power

```
#include<iostream>
using namespace std;
int Power(int base, int power){
int pow=base;
if(power==0&&base>0){
    return 1;
}
```

```
else{
     for(int i=1;i<power;i++)
          pow=base*pow;
     return pow;
}
}
int main(){
//function calling
     cout<<Power(4,0);
return 0;
  }
```

```
//Equivalent code with using a library function of cmath
#include<iostream>
#include<cmath>
using namespace std;
int main(){
     cout<<pow(3,4);
     return 0;
}
```

Problems:

Problem 1 (Marks 5):

Creat a function with protoype, void printTable(int input)

Take input from user in main and pass it to the function. Implement function using nested for loops. The function should print the table as follow.

Input:6

Sample Output:

```
1*  1  2  3  4  5  6
2*  2  4  6  8 10 12
3*  3  6  9 12 15 18
4*  4  8 12 16 20 24
5*  5 10 15 20 25 30
6*  6 12 18 24 30 36
```

Problem 2: (Marks 7.5)

Write a function void printDiagonal() for printing number in diagonal excluding multiple of 3, as shown in sample output.

Note: Input shall be taken within the function and not as a parameter.

Example:

Input: **5**

Output: 1

2 4

5 7 8

10 11 13 14

16 17 19 20 22

Problem 2: (Marks 7.5)

Implement a function bool IsPalindrom(string word)

The function shall take an input string and will return true if the string is palindrom otherwise false.