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FUNDAMENTALS OF PROGRAMMING

LAB ASSIGNMENT:1



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Q1:Write a program in C++ to find factors of a number loops.

```
#include <iostream>

using namespace std;

int main(){

    int num,f=1;

    cout<<"Please enter the number";

    cin>>num;

    for(f=1;f<=num;++f){

        if(num%f==0){

            cout<<f<<" ";

        }

    }

    return 0;

}
```

Q2:Write a program to find the output of code.

Ans: According to me there are some errors in the code like curly braces in nested If statement due to which it will not be executed. Neglecting the errors, the output of the program will be “x is 5 and y is10”.

Q3:Write a program.....if no.

```
#include <iostream>
```

```
using namespace std;
```

```
int main(){
```

```
    int num;
```

```
    cout<<"Enter your number";
```

```
    cin>>num;
```

```
    if(num>10&&num<=20)
```

```
    {cout<<"1(Yes)";}
```

```
    else
```

```
    {cout<<"0(No)";}
```

```
    return 0;
```

```
}
```

Q4:

```
#include<iostream>
```

```
using namespace std;
```

```
    bool isprime(int num)
```

```
    {
```

```
        if(num<2)
```

```
        {
```

```

        return false; }
    for(int i=2; i<num; ++i)
    {
        if(num%i==0){
            return false;
        }
    }
    return true;
}
int main()
{
    int N;

    cout<<"enter the positive integer such as N : ";
    cin>>N;

    while(N>=2){
        if(isprime(N))
        {

            cout<<"the largest prime number equal or
less to "<<N<<"="<<N<<"\n";

```

```
        break;
    }
    --N;
```

```
    }
    return 0;
}
```

Q5:

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

```
int main() {
```

```
    string str1, str2;
```

```
    cout << "Enter first string: ";
```

```
    cin >> str1;
```

```
    cout << "Enter second string: ";
```

```
    cin >> str2;
```

```
if (str1 == str2) {  
    rotate(str1.begin(), str1.begin() + 1, str1.end());  
    cout << "Strings are now unequal:\n";  
    cout << "String 1: " << str1 << "\n";  
    cout << "String 2: " << str2 << "\n";  
} else {  
  
    cout << "Strings are already unequal.\n";  
}  
  
return 0;  
}
```

Q6:

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

```
int main()  
{
```

```
int num = 0;
cout << "Enter the number\n"; cin >> num;
int quotient = 0; int divisor = 0;
cout << "Enter the divisor\n"; cin >> divisor;
while (num>=divisor)
{
num -= divisor; quotient++;
}
}
```

Q8:

```
#include <iostream> using namespace std; int main()
{
int a[10] = { 1,2,3,4,5 };
for (int i = 0; i <= 9; i++)
{
cin >> a[i];
}
for (int i = 0; i <= 9; i++)
{
cout<<a[i]<<endl;
```

```
}  
}
```

Q7:

```
#include <iostream>  
  
using namespace std;  
  
string removeDuplicates(const string& str) {  
    string result;  
    for (int i = 0; i < str.length(); ++i) {  
        char currentChar = str[i];  
        if (str.find(currentChar, i + 1) == string::npos) {  
            result.push_back(currentChar);  
        }  
    }  
  
    return result;  
}  
  
int main() {  
    string inputString;  
    cout << "Enter a string: ";  
    cin >> inputString;
```



```
    string resultString = removeDuplicates(inputString);  
    cout << "Resultant string after removing duplicates:  
" << resultString << endl;  
    return 0;  
}
```

Q9:

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

```
int main()
```

```
{
```

```
    int a[5]; int num = 0;
```

```
    bool found = false;
```

```
    cout << "Enter a number\n"; cin >> num;
```

```
    cout << endl;
```

```
    cout << "Enter the numbers of the array\n"; for (int i =  
0; i < 5; i++)
```

```
{
```

```
    cin >> a[i];
```

```
}
```

```
    for (int i = 0; i < 5; i++)
```

```
{for (int j = 0; j < 5; j++)
{for (int k = 0; k < 5; k++)
{if (a[i]+a[j]+a[k]==num)
{found = true;
}
}
}
}if (!found)
{
}
else
{
}
cout << "Triplet not found" << endl;
cout << "Triplet found\n";

return 0;}
```

Q10:

```
int main()
{
```

```
int a[6];

cout << "Enter the array of 6 integers\n"; for (int i = 0;
i < 6; i++)

cin >> a[i];

}for (int e = 0; e <= 6; e++)
{for (int j = 0; j < 4;j++)
{if (a[j] > a[j + 1])
{int temp; temp = a[j];
a[j] = a[j + 1]; a[j + 1] = temp;}}
}

cout << "The sorted array is :" << endl;

for (int k = 0;k < 6;k++)
{cout<< a[k]<<endl;
}return 0;
}
```