Assignment2(240850320008) Roll no:- 08

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1. Write a program to check whether a number is prime or not.
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```
#include <iostream>
using namespace std;

int prime(int num) {
    if (num <= 1) {
        cout << "No is not prime" << endl;
        return 0;
    }
    for (int i = 2; i <=num/2; i++) {
        if (num % i == 0) {
            cout << "No is not prime" << endl;
            return 0;
        }
    }
    cout << "No is prime" << endl;
}

int main() {
    int num;
    cout << "Enter the no.\n";
    cin >> num;
    prime(num);

    return 0;
}
```

Output :

```
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
Enter the no.
5
No is prime
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
Enter the no.
6
No is not prime
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
Enter the no.
8
No is not prime
```

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2. Write a program to generate first N prime numbers. Accept N from user.

```
#include <iostream>
using namespace std;
int isprime(int num){
   if (num <= 1)
      return 0;
   for (int i = 2; i <= num/2; i++){
      if (num % i == 0)
         { return 0; }
   }
   return 1; //if both failed then num is prime
}
int noofprime(int n){
   int count=0;
   int num = 2;

   while(count < n){
      if (isprime(num)){
        cout<<num<<endl;
         count ++;
        }
       num++;
   }
}
int main(){
   int n;
   cout <<endl<<"Enter the Number : ";
   cin>>n;
   noofprime(n);
   return 0;
}
```

OUTPUT :

```
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }

Enter the Number : 10
2
3
5
7
11
13
17
19
23
29
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language>
```

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3. Write a program to generate following pyramid

```
A
AB
```

ABC
..... A.............Z

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

int main(){

   int i, j, n = 26;
        for (i = 1; i <= n; i++) {
                for (j = 1; j <= i; j++) {
                        cout << (char)('A' + j - 1) << " ";
                }
                cout << endl;
        }
        return 0;

}
```

OUTPUT :

```
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
A
A B
A B C
A B C D
A B C D E
A B C D E F
A B C D E F G
A B C D E F G H
A B C D E F G H I
A B C D E F G H I J
A B C D E F G H I J K
A B C D E F G H I J K L
A B C D E F G H I J K L M
A B C D E F G H I J K L M N
A B C D E F G H I J K L M N O
A B C D E F G H I J K L M N O P
A B C D E F G H I J K L M N O P Q
A B C D E F G H I J K L M N O P Q R
A B C D E F G H I J K L M N O P Q R S
A B C D E F G H I J K L M N O P Q R S T
A B C D E F G H I J K L M N O P Q R S T U
A B C D E F G H I J K L M N O P Q R S T U V
A B C D E F G H I J K L M N O P Q R S T U V W
A B C D E F G H I J K L M N O P Q R S T U V W X
A B C D E F G H I J K L M N O P Q R S T U V W X Y
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language>
```

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4. Write a menu driven program to perform mathematical operations on two numbers.
1. Add
2. Sub
3. Mul
4. Div
5. Exit
accept the menu option and numbers form user.

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

int main() {
    int choice;
    double num1, num2;

    do {
        // Display the menu
        cout << "Menu:\n";
        cout << "1. Add\n";
        cout << "2. Subtract\n";
        cout << "3. Multiply\n";
        cout << "4. Divide\n";
        cout << "5. Exit\n";
        cout << "Enter your choice: ";
        cin >> choice;

        // Perform the chosen operation
        switch (choice) {
            case 1:
                cout << "Enter two numbers: ";
                cin >> num1 >> num2;
                cout << "Result: " << num1 + num2 << endl;
                break;
            case 2:
                cout << "Enter two numbers: ";
                cin >> num1 >> num2;
                cout << "Result: " << num1 - num2 << endl;
                break;
            case 3:
                cout << "Enter two numbers: ";
                cin >> num1 >> num2;
                cout << "Result: " << num1 * num2 << endl;
                break;
            case 4:
                cout << "Enter two numbers: ";
                cin >> num1 >> num2;
                if (num2 != 0) {
                    cout << "Result: " << num1 / num2 << endl;
                } else {
                    cout << "Error: Division by zero is not allowed." << endl;
                }
```

```
                break;
            case 5:
                cout << "Exiting the program." << endl;
                break;
            default:
                cout << "Invalid choice. Please try again." << endl;
        }

        cout << endl;
    } while (choice != 5);

    return 0;
}
```

OUTPUT:

```
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Exit
Enter your choice: 1
Enter two numbers: 5
4
Result: 9

Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Exit
Enter your choice: 0
Invalid choice. Please try again.

Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Exit
Enter your choice: 5
Exiting the program.
```

---

5. Generate following pyramid , accept the level from the user as input

```
1
1 2
```

```
1 2 3
..... 1.............N
 where N is the level accepted as input

#include <iostream>
using namespace std;

int main(){
int i,j,n;
cout<<"Enter the No.";
cin>>n;
for(i=1; i <= n; i++){
    for(j=1;j<=i;j++){
      cout<<j<<" ";
    }

    cout<<endl;
}

}
```

OUTPUT:

```
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language> cd
"c:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language\" ; if ($?) { g++ Ready.cpp -o
Ready } ; if ($?) { .\Ready }
Enter the No.5
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
PS C:\Users\HP\OneDrive\Desktop\C-DAC\C++ Language>
```