**SVKM's NMIMS**

**Mukesh Patel School of Technology Management and Engineering, Mumbai**



# Programming for Problem Solving (Exp 3-1)

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|---|---|
| Program: B. Tech Data Science (1st) | Batch: J1 |
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# Task 1:

## A:

**A.B. De Villiers**

## B:

**i is smaller than 15**

**i is smaller than 12 too**

## C:

**Correct**

## D:

**Wrong**

## E:

**No output**

# Task 2:

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

```cpp
int main() {
    int n;
    cout << "Enter number: ";
    cin >> n;
    if(n%2 != 0) {
        cout << "Weird";
    }
    else if(n >= 2 && n <= 5) {
        cout << "Not Weird";
    }
    else if(n >= 6 && n <= 20) {
        cout << "Weird";
    }
    else {
        cout << "Not Weird";
    }
    return 0;
}
```

# Task 3:

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

int main() {
    int Y;
    cout << "Enter the year: ";
    cin >> Y;
    if((Y % 4 == 0 && Y % 100 != 0) || Y % 400 == 0) {
        cout << "\nLeap Year\n";
    }
    else{
        cout << "\nNot a Leap Year\n";
    }
```

```cpp
    return 0;
}
```

# Task 4:

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

int main() {
    int N;
    cout << "Enter a number: ";
    cin >> N;
    if(N % 2 == 0 && N % 3 == 0 && N % 5 != 0) {
        cout << "\nNumber is perfect.\n";
    }
    else{
        cout << "\nNumber is not perfect.\n";
    }
    return 0;
}
```

# Home Work Questions:

# 1.

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


int main()
{
```

```cpp
char ch;

cout<<"Please input a valid character (Alphabet): ";
cin>>ch;

//check for valid alphabet
if((ch>='A' && ch<='Z') || (ch>='a' && ch<='z'))
{
        //check case and convert into opposite case
        if(ch>='A' && ch<='Z')
                ch=ch+32;
        else if(ch>='a' && ch<='z')
                ch=ch-32;
        else
                ;       //none

        cout<<"converted character is: "<<ch<<endl;

}
else
{
        cout<<"Entered character is not a valid alphabet!!!"<<endl;
}

return 0;
}
```