SVKM's NMIMS

Mukesh Patel School of Technology Management and Engineering, Mumbai

Programming for Problem Solving (Exp 5)

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

1:
1234

2:
12456

3:
00

4:

```
    1
   22
  333
 4444
55555
```

Task 2:

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

int main()
{
   for(int i = 0; i < 10; i++) {
      for(int x = 1; x <= 10; x++) {
         cout << setw(2) << (x + (i * 10)) << " ";
      }
```

```cpp
        cout << endl;
    }
    return 0;
}
```

Task 3:

1:

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

int main()
{
    for(int i = 1; i <= 4; i++)
    {
        for(int j = 1; j <= i; j++)
        {
            cout << j;
        }
        cout << endl;
    }

    return 0;
}
```

2:

```cpp
#include<iostream>

using namespace std;
int main() {
```

```cpp
    int num = 1;
    for (int i = 1; i <= 4; i++) {
        for (int space = 6; space > i; space--)
            cout << " ";
        for (int j = 0; j < i; j++)
            cout << num++ << " ";
        cout << endl;
    }
    cout << endl;
    return 0;
}
```

Task 4:

```cpp
#include <iostream>

#include <cmath>

using namespace std;

int main() {
    for (int i = 2; i < 100; i++)
        for (int j = 2; j * j <= i; j++) {
            if (i % j == 0)
                break;
            else if (j + 1 > sqrt(i)) {
                cout << i << " ";

            }

        }
    return 0;
}
```

Homework Questions:

1:

```cpp
#include <iostream>

using namespace std;

int main() {
    int n;
    cout << "Enter a number: ";
    cin >> n;
    cout << "\n\n";
    for (int i = n; i >= 1; i--) {
        int x = n - i + 1;
        for (int j = 1; j <= i; j++) {
            cout << x++;
        }

        cout << endl;
    }

    return 0;
}
```

2:

```cpp
#include <iostream>

using namespace std;
int main() {
    char ch = 'A';
```

```
    for (int i = 1; i <= 5; i++) {
        for (int j = 5; j >= i; j--)
            cout << " ";
        for (int k = 1; k <= i; k++)
            cout << ch++;
        ch--;
        for (int m = 1; m < i; m++)
            cout << --ch;
        cout << "\n";
        ch = 'A';
    }
    return 0;
}
```