Assignment - 23 A Job Ready Bootcamp in C++, DSA and IOT MySirG

Basics of C++

1. Write a C++ program to print Hello MySirG on the screen.

Program -

```
#include <iostream>
using namespace std;
int main()
{
  cout<<"Hello MySirG";
  return 0;
}
```

Output -
Hello MySirG

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2. Write a C++ program to print Hello on the first line and MySirG on the second line using endl.

Program -

```
#include <iostream>
using namespace std;
int main()
{
  cout<<"Hello"<<endl<<"MySirG";
  return 0;
}
```

Output -
Hello
MySirG

---

3. Write a C++ program to calculate the sum of two numbers.

Program -

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

int main()
{
  int a, b;

  cout<<"Enter two numbers: ";
  cin>>a>>b;

  cout<<"Sum: "<<a+b;
```

```
  return 0;
}
```

Output -
Enter two numbers: 12 5
Sum: 17

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4. Write a C++ program to calculate the area of a circle

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

int main()
{
  int R;
  float A;
  cout<<"Enter radius of the circle: ";
  cin>>R;
  A = 3.14 * R * R;
  cout<<"Area of the circle is: "<<A;
  return 0;
}
```

Output -
Enter radius of the circle: 4
Area of the circle is: 50.24

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5. Write a C++ program to calculate the volume of a cuboid.

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

int main()
{
  float l, b, h, vol;
  cout<<"Length, breadth and height of the cuboid: ";
  cin>>l>>b>>h;
  vol = l * b * h;
  cout<<"Volume of cuboid: "<<vol;
  return 0;
}
```

Output -
Length, breadth and height of the cuboid: 12 3 5
Volume of cuboid: 180

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6. Write a C++ program to calculate an average of 3 numbers.

Program -

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

int main()
{
  int a, b, c;
  float avg;

  cout<<"Enter 3 numbers: ";
  cin>>a>>b>>c;
  avg = (a+b+c) / 3.0;
  cout<<"Average: "<<avg;
  return 0;
}
```

Output -

Enter 3 numbers: 12 3 4
Average: 6.33333

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7. Write a C++ program to calculate the square of a number

Program -

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

int main()
{
  int n;
  cout<<"Enter a number: ";
  cin>>n;
  cout<<"Square of "<<n<<": "<<n*n;
  return 0;
}
```

Output -

Enter a number: 5
Square of 5: 25

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8. Write a C++ program to swap values of two int variables without using third variable

Program -

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

```
int main()
{
  int a, b;
  cout<<"Enter the value of a: ";
  cin>>a;
  cout<<"Enter the value of b: ";
  cin>>b;
  cout<<"Before swapping - a = "<<a<<", b = "<<b<<endl;
  a = a + b;
  b = a - b;
  a = a - b;
  cout<<"After swapping - a = "<<a<<", b = "<<b;
  return 0;
}
```

Output -
Enter the value of a: 4
Enter the value of b: 5
Before swapping - a = 4, b = 5
After swapping - a = 5, b = 4

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9. Write a C++ program to find the maximum of two numbers.

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

int main()
{
  int a, b, max;
  cout<<"Enter two numbers: ";
  cin>>a>>b;
  max = a > b ? a : b;
  cout<<"Maximum is: "<<max;
  return 0;
}
```

Output -
Enter two numbers: 90 100
Maximum is: 100

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10. Write a C++ program to add all the numbers of an array of size 10.

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

```
int main()
{
  int arr[10], i, sum = 0;

  cout<<"Enter 10 array values -"<<endl;
  for(i = 0; i < 10; i++)
    {
      cin>>arr[i];
      sum += arr[i];
    }
  cout<<"Sum of all the array values entered: "<<sum;
  return 0;
}
```

Output -
Enter 10 array values -
12 4 5 9 1 10 6 8 4 1
Sum of all the array values entered: 60