
1- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int a = 10, b = 20;
    (a > b) ? cout << "A is greater" : cout << "B is greater";
    cout << endl;

    return 0;
}
```

Solution

```
B is greater
```

2- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int num = 7;
    string result = (num % 2 == 0) ? "Even" : "Odd";
    cout << result << endl;

    return 0;
}
```

Solution

```
Odd
```

3- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int num = 7;
    string result = (num % 2) ? "Odd" : "even";
    cout << result << endl;

     cout<< (float)num/3<<endl;

    return 0;
}
```

Solution

```
Odd
2.33333
```

4- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int num = -8;
    int absValue = (num < 0) ? -num : num;
    cout << "Absolute value: " << absValue << endl;

    return 0;
}
```

Solution

```
Absolute value: 8
```

5- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int num = 7;
    int num1 = (!(num < 0)) ? -num : num;
    cout << " value: " << num1 << endl;

    return 0;
}
```

Solution

```
value: -7
```

6- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int num = 7;
    int num1 = (!(num < 0)) ? -num : num;
    cout << !(num1<0)<< endl;

    return 0;
}
```

Solution

```
0
```

7- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int number = -3;
    string sign = (number > 0) ? "Positive" : ((number < 0) ? "Negative" : "Zero");
    cout << "Sign: " << sign << endl;

    return 0;
}
```

Solution

```
Sign: Negative
```

8- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int number = 5 ;
    bool sign = (number > 0) ? !true : ((number < 0) ? false : true );
    cout << " num = " << !(sign > 0) << endl;

    return 0;
}
```

Solution

```
num = 1
```

9- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int main() {
    int a = 25, b = 0, c = 30;
    int num = (a < b) ? ((a < c) ? a : c) : ((b < c) ? b : c);
    cout << "number: " << !num << endl;

    return 0;
}
```

Solution

```
number: 1
```

10- Trace the following program and predict the output.

```cpp
// www.gammal.tech

#include <iostream>
using namespace std;

int i;
int fun(){
  cout<<i<<endl;
  return ++i;
}
int main() {

  while(fun() < 3){
    main();
  }


 return 0;

}
```

Solution

```
0
1
2
3
4
```
