

C++ Institute

Exam CPP

C++ Certified Professional Programmer

Verson: Demo

[Total Questions: 10]

Topic break down

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Topic 1, Volume A

Question No : 1 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <deque>

#include <iostream>

#include <algorithm>

#include <set>

using namespace std;

template<class T>struct Out {

ostream & out;

Out(ostream & o): out(o){}

void operator() (const T & val ) { out<<val<<" "; }

};

bool Compare(char a, char b) { return tolower(a) < tolower(b);}

int main() {

char s[]{"qwerty"};

char t1[]{"ert"};

char t2[]{"ERT"};

sort(s, s+6);

cout<<includes(s,s+6, t1,t1+3, Compare)<<" "<<includes(s,s+6, t2,t2+3, Compare)<<endl;

return 0;

}
```

Program outputs:

A. 0 0

- B. 0 1
- C. 1 0
- D. 1 1

Answer: D

Question No : 2 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <deque>

#include <vector>

#include <iostream>

#include <string>

using namespace std;

template<typename T>

void print(T start, T end)

{

while (start != end)

cout<<*start++;

}

int main ()

{

string t[] = {"one", "two", "three", "four", "five"};

vector<string>v1(t, t+5);

deque<string>d1(v1.rbegin(), v1.rend());

d1.push_back("zero");

print(d1[0].rbegin(),d1[0].rend());
```

```
return 0;  
  
}
```

- A. program outputs: orez
- B. program outputs: evif
- C. compilation error
- D. program outputs: five

Answer: B

Question No : 3 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <vector>  
  
using namespace std;  
  
int main ()  
{  
  
std::vector<int>v1;  
  
v1.push_back(10);  
  
return 0;  
  
}
```

- A. compilation fails due to error in line 2
- B. compilation fails due to error in line 5
- C. exception is thrown during run time
- D. code compiles and executes successfully

Answer: D

Question No : 4 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <iostream>
```

```
using namespace std;
```

```
void g(int a)
```

```
{
```

```
cout<<a?1<<endl;
```

```
}
```

```
template<class A>
```

```
void g(A a)
```

```
{
```

```
cout<<a+1<<endl;
```

```
}
```

```
int main()
```

```
{
```

```
int a = 1;
```

```
g(a);
```

```
return 0;
```

```
}
```

- A. program displays: 0
- B. program displays: 2
- C. compilation error
- D. runtime exception

Answer: A

Question No : 5 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <iostream>

#include <algorithm>

#include <vector>

using namespace std;

int main () {

int t[] = {1,2,3,4,5,1,2,3,5,4};

vector<int> v (t,t+10);

vector<int>::iterator it;

int m1[] = {1, 3, 2};

it = find_end (v.begin(), v.end(), m1, m1+3);

if (it != v.end())

cout << "Found at position: " << it?v.begin() << endl;

return 0;

}
```

- A. program outputs: Found at position: 5
- B. program outputs: Found at position: 0
- C. no output
- D. program outputs: Found at position: 10

Answer: C

Question No : 6 - (Topic 1)

What happens when you attempt to compile and run the following code?

```
#include <deque>

#include <iostream>

#include <algorithm>

using namespace std;

class B { int val;

public:

B(int v):val(v){}

int getV() const {return val;} bool operator < (const B & v) const { return val<v.val;} };

ostream & operator <<(ostream & out, const B & v) { out<<v.getV(); return out;}

template<class T>struct Out {

ostream & out;

Out(ostream & o): out(o){}

void operator() (const T & val ) { out<<val<<" "; } };

int main() {

int t[]={8, 10, 5, 1, 4, 6, 2, 7, 9, 3};

deque<B> d1(t, t+10);

sort(d1.begin(), d1.end());

deque<B>::iterator it = upper_bound(d1.begin(), d1.end(), B(4));

for_each(it, d1.end(), Out<B>(cout)); cout<<endl;

return 0;

}
```

Program outputs:

- A. 5 6 7 8 9 10
- B. 4 5 6 7 8 9 10
- C. 6 7 8 9 10

D. 1 2 3 4 5

E. 1 2 3 4

Answer: A

Question No : 7 - (Topic 1)

Given three files: class.h, class.cpp and main.cpp containing small C++ project, which sentences are TRUE if you attempt to compile and run the program? Assume that the whole compiling environment is properly set.

```
// File: main.cpp

#include <iostream>

#include "class.h"

using namespace std;

int main()
{
A<int> a;

cout << a.getV() << endl;

return 0;

}
```

```
//File: class.h

#ifndef _CLASS_

#define _CLASS_

template <class T>

class A {

T_v;
```

```
public:
```

```
A() {}
```

```
A(T v);
```

```
T getV();
```

```
};
```

```
#endif
```

```
//File: class.cpp
```

```
#include "class.h"
```

```
template<typename T>
```

```
A<T>::A(T v):_v(v) {}
```

```
template<class T>
```

```
T A<T>::getV() { return _v; }
```

- A. program will display: 0
- B. program will not compile
- C. program will display unpredictable number
- D. program will be not linked

Answer: D

Topic 2, Volume B

Question No : 8 - (Topic 2)

What happens when you attempt to compile and run the following code?

```
#include <vector>
```

```
#include <iostream>
```

```

#include <algorithm>

using namespace std;

template<typename T>class B { T val;

public:

B(T v):val(v){}

T getV() const {return val;} bool operator < (const B & v) const { return val<v.val; } };

template<class T>ostream & operator <<(ostream & out, const B<T> & v) { out<<v.getV();
return out;}

template<class T>struct Out {

ostream & out;

Out(ostream & o): out(o){}

void operator() (const T & val ) { out<<val<<" "; } };

bool Less(const B<float> &a, const B<float> &b) { return int(a.getV())<int(b.getV());}

int main() {

float t[]={2.28, 1.66, 1.32, 3.94, 3.64, 2.3, 2.98, 1.96, 2.62, 1.13};

vector<B<float> > v1; v1.assign(t, t+10);

stable_sort(v1.begin(), v1.end(), Less);

for_each(v1.begin(), v1.end(), Out<B<float> >(cout));cout<<endl;

return 0;

}

```

Program outputs:

- A. 1.66 1.32 1.96 1.13 2.28 2.3 2.98 2.62 3.94 3.64
- B. 1.13 1.32 1.66 1.96 2.28 2.3 2.62 2.98 3.64 3.94
- C. compilation error
- D. 3.94 3.64 2.98 2.62 2.3 2.28 1.96 1.66 1.32 1.13
- E. the exact output is impossible to determine

Answer: A

Question No : 9 - (Topic 2)

What will be output of the program when you attempt to compile and run the following code?

```
#include <iostream>

#include <map>

#include <vector>

#include <string>

using namespace std;

int main(){

int second[] = { 3, 4, 2, 1, 6, 5, 7, 9, 8, 0 };

string first[] = {"three", "four", "two", "one", "six", "five", "seven", "nine", "eight", "zero"};

multimap<int, string> m;

for(int i=0; i<10; i++) {

m.insert(pair<int, string>(second[i], first[i]));

}

m[0]="ten";

m.insert(pair<int, string>(1, "eleven"));

for(multimap<int, string>::iterator i=m.begin(); i!= m.end(); i++) {

cout<<i?>second<<" ";

}

return 0;

}
```

A. zero one two three four five six seven eight nine

- B. ten one two three four five six seven eight nine
- C. zero eleven two three four five six seven eight nine
- D. ten eleven two three four five six seven eight nine
- E. compilation error

Answer: E

Question No : 10 - (Topic 2)

What happens when you attempt to compile and run the following code?

```
#include <iostream>

#include <set>

#include <vector>

using namespace std;

int main(){

int myints[] = { 3, 4, 2, 1, 6, 5, 7, 9, 8, 0 };

vector<int>v(myints, myints+10);

set<int> s1(v.begin(),v.end());

s1.insert(v.begin(),v.end());

s1.erase(s1.lower_bound(2),s1.upper_bound(7));

for(set<int>::iterator i=s1.begin();i!= s1.end(); i++) {

cout<<*i<<" ";

}

return 0;

}
```

- A. program outputs: 0 1 8 9
- B. program outputs: 2 3 4 5 6 7
- C. program outputs: 1 6 5 7
- D. program outputs: 3 4 9 8 0

Answer: A

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