



KAZAKH-BRITISH TECHNICAL UNIVERSITY
FACULTY OF INFORMATION TECHNOLOGIES
Course: Programming Principles I **Date:** 14/12/2019
Variant: 3

Answers section

If you have multiple answers for one question write them all

- | | | | | |
|----|----|-----|-----|-----|
| 1. | 5. | 9. | 13. | 17. |
| 2. | 6. | 10. | 14. | 18. |
| 3. | 7. | 11. | 15. | 19. |
| 4. | 8. | 12. | 16. | 20. |

Questions section

1. What will be the output of this code:

```
#include <iostream>
using namespace std;
int main(){
    for(int i = 0; i <= 5; i++) {
        if (i % 2 == 0)
            continue;
        else
            cout << i << " ";
    }
    return 0;
}
```

- (a) 0 2 4 (b) 0 1 2 3 4 5 (c) 1 3 (d) 1 3 5

2. What will be the output of this code:

```
#include <iostream>
#include <algorithm>
using namespace std;
int main(){
    int a[4] = {20, 4, -1, -8};
    sort(a, a + 4);
    for (int i = 0; i < 3; i++)
        cout << a[i] << " ";
    return 0;
}
```

(a) 20 4 -1 -8

(b) -8 -1 4

(c) 4 -1 -8

(d) -8 -1 4 20

3. What will be the output of this code:

```
using namespace std;
int main(){
    set<int> s;
    s.insert(5);
    s.insert(6);
    s.insert(7);
    s.insert(5);
    set<int> :: iterator it;
    for (it = s.begin(); it != s.end(); it++)
        cout << *it << " ";
    return 0;
}
```

(a) None of them

(b) 7 6 5

(c) 5 5 6 7

(d) 5 6 7

4. What will be the output of this code:

```
#include <iostream>
using namespace std;
int main(){
    string s = "CheAtiNg";
    for (int i = 0; i < s.size(); i++) {
        if (s[i] >= 'A' && s[i] <= 'Z')
            cout << s[i + 1];
    }
    return 0;
}
```

(a) h t g

(b) c a n

(c) h g

(d) g t h

5. What will be the output of this code:

```
#include <iostream>

using namespace std;

int recursion(int n) {
    if (n == 1) {
        return 1;
    }
    return recursion(n - 2) * n;
}

int main()
{
    int n = 7;
    cout << recursion(n);
    return 0;
}
```

(a) 5040

(b) 720

(c) 105

(d) 28

6. Evaluate the next expression, where $n = 135$:

$n \ll 0$

(a) 270

(b) 67

(c) 1350

(d) None of the above

7. What will be the output of this code:

```
#include <iostream>
#include <vector>

using namespace std;

int main(){
    vector<int> v(5);
    v.push_back(0);
    v.push_back(7);
    v.push_back(0);
    v.push_back(10);
    v.push_back(2);

    for (int i = 0; i < v.size() - 1; i++) {
        bool ok = (v[i] & v[i+1]);
        if (ok)
            cout << "ok" << " ";
    }

    return 0;
}
```

(a) ok

(b) ok ok

(c) ok ok ok

(d) None of the above

8. What will be the output of this code:

```
#include <iostream>
#include <map>

using namespace std;

int main() {
    map<int, int> marks;
    marks.insert(pair<int, int>(160, 42));
    marks.insert(pair<int, int>(166, 34));

    map<int, int>::iterator it;

    for (it = marks.begin(); it != marks.end(); ++it) {
        cout << *it << " ";
    }
    return 0;
}
```

- (a) 160 42 166 34 (b) 160 166 (c) 42 34 (d) None of the above

9. What will be the output of this code:

```
#include<iostream>

using namespace std;
void swap(int m, int n) {
    int x = m;
    m = n;
    n = x;
}
main() {
    int x = 5, y = 3;
    swap(x, y);
    cout << x << " " << y;
    return 0;
}
```

- (a) 3 5 (b) 5 3 (c) 5 5 (d) Compile error

10. What will be the output of this code:

```
#include<iostream>
using namespace std;
main() {
    int x = 5;
    if(x == 5) {
        if(x == 5) break;
        cout << "Hello";
    }
    cout << "Hi";
}
return 0;
```

- (a) Compile error (b) Hi (c) HelloHi (d) Hello

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