Data de início	Quarta, 29 Março 2017, 14:31
Estado	Teste enviado
Data de submissão:	Quarta, 29 Março 2017, 15:31
Tempo gasto	1 hora

Pergunta 1

Respondida Pontuação 1,000 Destacar pergunta

What is the next step in using a file, after the file has been declared with the following statement?

```
ofstream f;
```

Selecione uma opção de resposta:

- a. You use the file by outputting a value to it.
- b. You use the file to input a variable.
- c. I don't want to answer
- d. You test if the file is open.
- e. You open the file, and associate it with a specific file name.

Pergunta 2

Respondida Pontuação 1,000 Destacar pergunta

Consider the following piece of code:

```
string name;
unsigned int age = 0;
cout << "Insert your 'name' and 'age': "; cin >> name >> age;
cout << "Name and age: " << name << " / " << age << endl;
```

The user input was: "**Cristiano Ronaldo 32**".
Which is the output of the code?

Selecione uma opção de resposta:

- a. Name and age: Cristiano / 0
- b. There will be no output; the program will stop, showing an error message on the screen
- c. Name and age: Cristiano Ronaldo / 32
- d. I don't want to answer
- e. Name and age: Cristiano / 32

Pergunta 3

Respondida Pontuação 1,000 Destacar pergunta

Consider the following piece of code:

```
void showTime(unsigned int h, unsigned int m=0)
{
  cout<< setw(2) << h << ":" << setw(2) << m;
}

int main()
{
  showtime(16);
  cout << endl;
  showtime(16,25);
}
```

Which of the following sentences about this code is TRUE ?

Selecione uma opção de resposta:

- a. The output will be:
  16
  16:25
- b. It is not possible to call showTime(16) because this function has 2 parameters.
- c. I don't want to answer
- d. The output will be:
  16:00
  16:25
- e. The output will be:
  16: 0
  16:25

Pergunta 4

Respondida Pontuação 1,000 Destacar pergunta

Consider the following piece of code:

```
char ans;
do
{
  cin >> ans;
} while (.....);
```

Complete the **while** statement to force the user to input either Y or N.

Selecione uma opção de resposta:

- a. while (ans != 'Y' || ans != 'N');
- b. while (ans != 'Y' && ans != 'N');
- c. while (! (ans == "Y" && ans == "N"));
- d. I don't want to answer
- e. while (ans != 'Y' || 'N'));

Pergunta 5

Respondida Pontuação 1,000 Destacar pergunta

To read the name (having more than one word) and gender ('M' or 'F')) of a person from the keyboard which of the following pieces of code would you choose?

Selecione uma opção de resposta:

- a.
```
string name;
char gender;
cout << "Name? "; cin>>name;
cout << "Gender (M F) ? "; cin >> gender;
```
- b.
```
string name;
char gender;
cout << "Name? "; getline(cin, name);
cout << "Gender (M F) ? "; cin >> gender;
```
- c.
```
string name;
char gender;
cout << "Name? "; getline(cin, name);
cout << "Gender (M F) ? "; getline(cin, gender);
```
- d.
```
string name;
char gender;
cout << "Name? "; cin.getline(name);
cout << "Gender (M F) ? "; cin >> gender;
```
- e. I don't want to answer

Pergunta 6

Respondida Pontuação 1,000 Destacar pergunta

What is written to the screen when the following piece of code is executed and the user input for **'radius'** is 1?

```
double volume, radius;
const double PI = 3.14;
cout << "radius ? ";
cin >> radius;  // the user input was 1
volume = 4/3 * PI * radius * radius * radius;
cout << volume << endl;
```

Selecione uma opção de resposta:

- a. 4.18667
- b. I don't want to answer
- c. volume endl
- d. 3.14
- e. 4/3 * PI * radius * radius * radius

Pergunta 7

Respondida Pontuação 1,000 Destacar pergunta

What is the output of the following program ?

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

void func1(const vector<int> &v1, vector<int> &v2)
{
  for (size_t i = 0; i < v1.size(); i++)
    if (v1.at(i) % 2 == 1)
      v2.push_back(v1.at(i));
}

void func2(const vector<int> &v)
{
  cout << "[";
  for (size_t i = 0; i < v.size(); i++)
    cout << setw(2) << v.at(i);
  cout << "]";
}

int main()
{
  vector<int> v1 = { 1, 2, 3, 4, 5 }, v2;
  func2(v1);
  func1(v1, v2);
  func2(v2);
}
```

Selecione uma opção de resposta:

- a.

  [1 2 3 4 5]
  [1 3 5]
- b. [1 2 3 4 5][]
- c. [1 2 3 4 5][1 3 5]
- d. [1 2 3 4 5][1 2 3 4 5]
- e. I don't want to answer

Pergunta 8

Respondida Pontuação 1,000 Destacar pergunta

Which of the following loops is NOT EQUIVALENT to the loop below

```
for (int i = 1; i <= 10; i++)
  cout << i;
```

Selecione uma opção de resposta:

- a.
```
int i = 1;
while (i <= 10)
{
  cout << i;
  i++;
}
```
- b.
```
for (int i = 1; i <= 10; ++i)
  cout << i;
```
- c. I don't want to answer
- d.
```
int i = 0;
do
{
  i++;
  cout << i;
} while (i <= 10);
```
- e.
```
for (int i = 1; i <= 10; i = i +1)
  cout << i;
```

Pergunta 9

Respondida Pontuação 1,000 Destacar pergunta

The expression

s1.find(s2) != string::npos

Selecione uma opção de resposta:

- a. is true if the string "npos" is contained in s1 but is not contained in s2
- b. is false if string s1 does not contain the string s2
- c. is true if the string s1 does not contain the string s2
- d. I don't want to answer
- e. is true if the string s1 contains the string s2

Pergunta 10

Respondida Pontuação 1,000 Destacar pergunta

Which one of the following functions correctly returns the minimum of three integers that it receives as parameters?
NOTE: some of the functions may produce compiling errors.

Selecione uma opção de resposta:

- a.
```
int min(int n1, int n2, int n3)
{
 if (n1 < (n2 && n3)) return n1;
 if (n2 < (n1 && n3)) return n2;
 if (n3 < (n1 && n3)) return n3;
}
```
- b.
```
int min(int n1, int n2, int n3)
{
 int n = n1;
 if (n2 < n) n=n1; n2 em vez de n1, dito no teste
 if (n3 < n) n=n3;
 return n;
}
```
- c. I don't want to answer
- d.
```
int min(int n1, int n2, int n3)
{
 if (n1 < n2) min = n1; else min = n2;
 if (n3 < min) min=n3;
}
```
- e.
```
void min(int &n1, int &n2, int &n3)
{
 if (n1 < n2 && n1 < n3) return n1;
 if (n2 < n1 && n2 < n3)) return n2;
 if (n3 < n1 && n3 < n2)) return n3;
}
```

Pergunta 11

Respondida Pontuação 1,000 Destacar pergunta

Which of the following is a VALID name for an identifier ?

Selecione uma opção de resposta:

- a. integral
- b. int
- c. char
- d. 2ndPlayer
- e. I don't want to answer

Pergunta 12

Respondida Pontuação 1,000 Destacar pergunta

The compilation of the following code will produce a compilation error:

```
do
{
  cout << "operation (+ -) ? ";
  char operation;
  cin >> operation;
  bool validOperation = (operation == '+') || (operation == '-');
} while (!validOperation);
```

The error message is:

Selecione uma opção de resposta:

- a. I don't want to answer
- b. 'validOperation': undeclared identifier
- c. 'validOperation': invalid value
- d. 'validOperation': invalid name
- e. 'validOperation': invalid type

Pergunta 13

Respondida Pontuação 1,000 Destacar pergunta

Consider the following array declaration:

```
int a[2][3] = { {1,3,2}, {5,2,9} };
```

The code to obtain the sum of all the elements of the array is:

Selecione uma opção de resposta:

- a.
```
int sum = 0;
for (int i = 0; i < 2; i++)
  for (int j = 0; j < 3; j++)
    sum = sum + a[i][j];
```
- b. I don't want to answer
- c.
```
int sum = 0;
for (int i = 1; i <= 2; i++)
  for (int j = 1; j <= 3; j++)
    sum = sum + a[j][i];
```
- d.
```
int sum = 0;
for (int i = 0; i < 3; i++)
  for (int j = 0; j <2; j++)
    sum = sum + a[i][j];
```
- e.
```
int sum = 0;
for (int i = 1; i <= 3; i++)
  for (int j = 1; j <= 2; j++)
    sum = sum + a[i][j];
```

Pergunta 14

Respondida Pontuação 1,000 Destacar pergunta

Consider the following piece of code:

```
void f(int a[ ], int nElems)
{
  cout << "sizeof(a) = " << sizeof(a) << endl;
  // ... processing of a[ ];
}

int main()
{
   int a[3] = {10,20,30};
   cout << "sizeof(int) = " << sizeof(int) << " - ";
   cout << "sizeof(a) = " << sizeof(a) << " - ";
   f(a,3);
}
```

Select the only possible output of this code.

Selecione uma opção de resposta:

- a. I don't want to answer
- b. sizeof(int) = 4 - sizeof(a) = 12 - sizeof(a) = 12
- c. sizeof(int) = 4 - sizeof(a) = 12 - sizeof(a) = 4
- d. sizeof(int) = 4 - sizeof(a) = 3 - sizeof(a) = 3
- e. sizeof(int) = 1 - sizeof(a) = 3 - sizeof(a) = 3

Pergunta 15

Respondida Pontuação 1,000 Destacar pergunta

Which include statement must be used in a program that must read some input data from files?

Selecione uma opção de resposta:

- a. I don't want to answer
- b. #include <filestream>
- c. #include <fstream>
- d. #include <files>
- e. #include <ifstream>

Pergunta 16

Respondida Pontuação 1,000 Destacar pergunta

What is the output of the following piece of code when the user input is 111 and 222:

```
string s1, s2;
cout << "s1? "; cin >> s1;
cout << "s2? "; cin >> s2;
cout << s1 + s2 << endl;
```

Selecione uma opção de resposta:

- a. 333
- b. 111 + 222 endl
- c. 111222
- d. Error: + operator can't be used with strings
- e. I don't want to answer

Pergunta 17

Respondida Pontuação 1,000 Destacar pergunta

Consider the following piece of code:

```
if (x=1)
  cout << "x is equal to 1";
else
  cout << "x is not equal to 1";
```

Which of the following sentences is FALSE about this code?

Selecione uma opção de resposta:

- a. It will always write "x is equal to 1" to the screen
- b. It will write to the screen "x is equal to 1" or "x is not equal to 1" depending on the value of x
- c. It will modify the value of variable x
- d. The parenthesis in if (x=1) statement can't be removed.
- e. I don't want to answer

Pergunta 18

Respondida Pontuação 1,000 Destacar pergunta

The statement **cin.clear()**

Selecione uma opção de resposta:

- a. cleans the screen
- b. cleans the input buffer
- c. I don't want to answer
- d. restores the cin error state flags to "good" so that input may proceed on that stream
- e. cleans all the characters in the input buffer until a newline character is found

Pergunta 19

Respondida Pontuação 1,000 Destacar pergunta

Consider the following declarations:

```
struct Employee
{
  string name;
  double salary[12]; // salary during the 12 months of the year: January ..December
};

vector<Employee> employee(100);
```

The statement that reads from the keyboard the salary of the first employee (first element of the vector) in the month of December (last element of array 'salary') is

Selecione uma opção de resposta:

- a. cin >> employee.salary[0][11];
- b. I don't want to answer
- c. cin >> employee.at(1).salary[12];
- d. cin >> employee.at(0).salary[11];
- e. cin >> employee.at(0).at(11);

Pergunta 20

Respondida Pontuação 1,000 Destacar pergunta

Consider the following function prototype:

```
void f1(const string &s1, string &s2);
```

Which of the following sentences about this function is TRUE?

Selecione uma opção de resposta:

- a. Function f1 can not modify the argument passed to s1 but can modify the argument passed to s2
- b. Function f1 can not modify the arguments passed to both s1 and s2
- c. The last statement in the body of the function must be return void;
- d. Function f1 can modify the arguments passed to both s1 and s2, but the argument passed to s1 must be always a constant string literal
- e. I don't want to answer

Pergunta 21

Respondida Pontuação 1,000 Destacar pergunta

Consider the following function:

```
int countingFun()
{
  static int counter = 0;
  counter++;
  return counter;
}
```

Which of the following sentences about this function is TRUE?

Selecione uma opção de resposta:

- a. The compilation of this code will produce an error because 'counter' is a static variable, so it can not be incremented
- b. I don't want to answer
- c. The function will always return the value 1, because 'counter' is initialized with 0, every time the function is called.
- d. The qualifiers 'static' and 'const' have the same meaning, so one could replace 'static' with 'const' and the result would be exactly the same.
- e. 'counter' will be initialized only once, with value 0, and it will keep its value like a global variable; so, the return value will be 1, after the first call to the function, 2, after the second call, 3 after the third call, and so on

Pergunta 22

Respondida Pontuação 1,000 Destacar pergunta

Consider that the following variables have been declared

```
int x;
bool validX;
```

and that the value of **'x'** has been read from the keyboard.

Variable **'validX'** must be **'true'** when the value of variable **'x'** is in the range [0..20], **'false'** otherwise. This could be accomplished with the statement:

Selecione uma opção de resposta:

- a. if (x>=0 && x <=20) validX=true; else validX=false;
- b.

```
switch (x)
{ case [0..20] : validX=true;
                 break;
  default: validX=false;
}
```

- c. I don't want to answer
- d. if (0 <= x <=20) validX=true; else validX=false;
- e. if (0 <= x & x <=20) validX=true else validX=false;

Pergunta 23

Respondida Pontuação 1,000 Destacar pergunta

Function overloading is …

Selecione uma opção de resposta:

- a. what happens when the function has a lot of statements
- b. what happens when a function is called recursively
- c. the ability to create multiple functions with the same name but with different number of formal parameters or some formal parameters of different types
- d. what happens when the function takes a long time to execute
- e. I don't want to answer

Pergunta 24

Respondida Pontuação 1,000 Destacar pergunta

Function **pow** has the following prototypes:
double pow (double base, double exponent);
float pow (float base, float exponent);
long double pow (long double base, long double exponent);

It returns **base** raised to the power **exponent** (example: when base=2 and exponent=3, it returns 8 ($=2^3$).

Which of the following statements must be used to write to the screen the value of $2.5^{1.3}$

Selecione uma opção de resposta:

- a. cout << pow(long double 2.5, long double 1.3);
- b. I don't want to answer
- c. cout << pow(float 2.5, float 1.3);
- d. cout << double pow(double base=2.5, double exponent=1.3);
- e. cout << pow(2.5, 1.3);

Pergunta 25

Respondida Pontuação 1,000 Destacar pergunta

Which of the following is FALSE:

Selecione uma opção de resposta:

- a. The i-th element of a vector can be accessed either as v.at(i) or as v[i]
- b. Vectors can grow dynamically
- c. Each line of a 2D vector can have a different number of elements
- d. I don't want to answer
- e. The elements of a C array can't be of different types but the elements of an STL vector can be of different types