



أساسيات البرمجة

12:2
الأربعاء 13/6/2021
د. عمرو عبد السميع

Faculty of Computers & Information, Assiut University

1st Level

Final Exam

Duration: 2 hours

1. * الإسم الرباعي (بالعربي فقط).

رانيا مصطفى عبد الجواد

2. * رقم الجلوس.

162020220

3. * المستوى.

الأول

الثاني

الثالث

رابعة 2013

رابعة 2014

رابعة 2015

رابعة 2016

رابعة 2017

4. * البرنامج

عام

بایو

هندسة

5. * رقم المعمل

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* رقم الكمبيوتر 6.

19

* الكود (قد تمت مراجعة بيانات الطالب ورقم الجلوس) 7.

UzZJ

8. What should be output of below program?

```
#include <iostream>
using namespace std;
int main()
{
    if(0)
        cout<<"Hi";
    else;
        // cout<<"Bye";
    return 0;
}
```

(2 Points)

Hi

No output!

HiBye

Bye

9. The modulus operator uses __ character.

(2 Points)

/

*

%

&

10.variables are those variables which are not declared within any function or scope. So, these variables can be accessed by any function of the program.

(2 Points)

Global

Local

New

General

11. What will be the output of the following C++ code?

```
1. #include<iostream>
2. #include<cmath>
3. using namespace std;
4. int main ()
5. {
6.     int array[] = {0, 2, 4, 6, 7, 5, 3};
7.     int n, result = 0;
8.     for (n = 0; n < 8; n++)
9.     {
10.         result += array[n];
11.     }
12.     cout << result;
13.     return 0;
14. }
```

(2 Points)

25

26

27

28

12. The escape sequence '\n' means:

(2 Points)

Newline

Tab

Backspace

Backslash

13. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main() {
    int n1=0,n2=1,n3,i,number;
    number=5;
    cout<<n1<<" "<<n2<<" ";
    for(i=2;i<number;++)
    {
        n3=n1+n2;
        cout<<n3<<" ";
        n1=n2;
        n2=n3;
    }
    return 0;
}
```

(2 Points)

0 1 1 2 3

0 1 2 3 4

1 2 3 4 5

5 4 3 2 1

14. All of these are C++ keywords except:

(2 Points)

else

switch

using

constant

15. Write the output of the following C++ program code. Note: Assume all required header files are already being included in the program.

```
1. int (main){  
2. int const p = 10;  
3. cout << ++p;  
4. return 0;  
5. }
```

(2 Points)

10

11

Error

None of the mentioned

16. The C++ source code has an extension of .c++?

(2 Points)

True

False

17. C++ is not case sensitive, thus, "NUMBER" is the same as "number".

(2 Points)

True

False

18. What will be the output of the following C++ code?

1. #include <iostream>
 2. using namespace std;
 3. int main()
 4. {
 5. cout << My first C++ program. << endl;
 6. return 0;
 - 7.}
- (2 Points)

- My first C++ program.
- My
- M
- Error

19. Observe the following C++ code and write the name(s) of the header file(s), which header file(s) will be essentially required to run it in a C++ compiler:

1. void main(){
 2. int Number;
 3. Number=-5;
 4. Number =abs(Number);
 5. cout<
- (2 Points)

- iomanip
- iostream
- cmath
- All the above

20. Write the names of the header file to which the command "setw" belong:

(2 Points)

- ctype

iostream

iomanip

cmath

21. Determine the output of the following code fragment.

1. int fun(int & i, int j) { i++; j++; return i+j;}

2. void main(){

3. int a=3,b=4;

4. fun(a,b+2);

5. cout <

(2 Points)

2 2

3 3

4 4

5 5

22. What will be the output of the following C++ code?

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

```
int main()
{
    int i, sum = 0;
    for (i = 35; i >= 25; i--)
    {
        if (i % 6 == 0)
        {
            cout << " " << i;
        }
    }
}
```

(2 Points)

32

31

30

29

23. What will be the output of the following C++ code?

```
1. #include <iostream>
2. #include <string.h>
3. using namespace std;
4. int main()
5. {
6.     struct student
7.     {
8.         int num;
9.         string name;
10.    };
11.    student stu;
12.    stu.num = 123;
13.    stu.name = "Student1";
14.    cout << stu.num;
15.    cout << stu.name << endl;
16.    return 0;
17. }
```

(2 Points)

123Student1

123 Student1

Error!

None of the Above.

24. Variables in C++ can be initialized when declared:

ex:

int first=13, second=10;

(2 Points)

True

False

25. Thefunction discards a portion of the input.

cin.(intExp,chExp);

(2 Points)

remove

delete

ignore

discard

26. Select the output of the following program:

```
#include <iostream>
using namespace std;
struct MyBox
{
    int length, breadth, height;
};
void dimension (MyBox M)
{
    cout << M.length << "x" << M.breadth << "x";
    cout << M.height << endl;
}
int main ()
{
    MyBox B1 = {10, 15, 5}, B2, B3;
    ++B1.height;
    B3 = B1;
    B2 = B3;
    B2.height += 5;
    B2.length--;
    dimension(B2);

    return 0;
}
```

(2 Points)

12x15x6

9x15x11

5x10x3

10x15x5

27. What will be the output of the following C++ code, using the inputs: - 5 6?

```
#include <iostream>
using namespace std;
int main() {
    char oper;
    float num1, num2;
    cout << "Enter an operator (+, -, *): ";
    cin >> oper;
    cout << "Enter two numbers: " << endl;
    cin >> num1 >> num2;

    switch (oper) {
        case '+':
            cout << num1 << " + " << num2 << " = " << num1 + num2;
        case '-':
            cout << num1 << " - " << num2 << " = " << num1 - num2;

        case '*':
            cout << num1 << " * " << num2 << " = " << num1 * num2;
        break;
        default:
            // operator is doesn't match any case constant (+, -)
            cout << "Error! The operator is not correct";
            break;
    }

    return 0;
}
```

Run time:

Enter an operator (+, -, *): +

Enter two numbers:

5 6

??

(2 Points)

5-6=-1

5-6*5=-25

5 - 6 = -15 * 6 = 30

5*6=30

28. What will be the output of the following C++ code?

```
1. #include <iostream>
2. using namespace std;
3. void printintm(int x)
4. {
5.     cout << --x;
6. }
7. int main()
8. { int a=7;
9. a=8;
10 . printintm(a);
11. return 0;
12. }
```

(2 Points)

6

7

8

9

29. What will be the output of the following C++ code?

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5.     int i;
6.     int a = 10;
7.     if (a != 10)
8.     {
9.         for (i = 1; i <= 5; i++)
10.            cout << i;
11.    }
12.    else
13.    {
14.        for (i = 9; i > 6; i--)
15.            cout << i;
16.    }
17.    return 0;
18. }
```

(2 Points)

123

321

987

789

30. Where does the execution of the c++ program starts?

(2 Points)

user-defined function

main function

void function

none of the mentioned

31. Which C++ header file is essentially required to be included to run/execute the following C++ code:

1. void main(){}
 2. char word1[]="Hello";
 3. cout<
- (2 Points)

- ctype
- iostream
- math
- iomanip

32. Which of the following accesses the 55th element stored in array?

(2 Points)

- array[54];
- array[55];
- array(54);
- Array(55);

33. What should be output of below program?
if the user enters a = 5?

```
int main()
{
    int a;
    cin>>a;

    if (++a*5 <= 25)
    {
        cout<<"Hello";
    }
    else
    {
        cout<<"Bye";
    }
}
```

(2 Points)

Option 2

Compilation Error

Undefined

Bye

Hello

34. Below is a program in C++ to find the sum of the series $1 + 1/2^2 + 1/3^3 + \dots + 1/n^n$.

Choose the correct missing statement in line 13 from the choices:

```
1. #include <iostream>
2. #include <math.h>
3. using namespace std;
4. int main()
5. {
6.     double sum = 0, a;
7.     int n, i;
8.     cout << "\n\n Find the sum of the series 1 + 1/2^2 + 1/3^3 +.....+ 1/n^n:\n";
9.     cout << "-----\n";
10.    cout << " Input the value for nth term: ";
11.    cin >> n;
12.    for (i = 1; i <= n; ++i)
13.    {
14.        cout << "1/" << i << "^" << i << " = " << a << endl;
15.        sum += a;
16.    }
17.    cout << " The sum of the above series is: " << sum << endl;
}
(2 Points)
```

- i=i+1/pow(2);
- a = 1 / pow(i, i);
- a=1 + 1/2^2 + 1/3^3 +.....+ 1/n^n:\n;
- a=1+1/i;

35. Which of the following is used for commenting text in C++?

(2 Points)

- /* comment */
- // comment */
- // comment

both // comment or /* comment */

36. _____: translates high-level language into machine code.
(2 Points)

- Loader
- Linker
- Editor
- Compiler

37. Consider the following function definition:

1. double func(double x, int y, string name)
2. {
3. // Function body
4. }

- Which of the following is the correct function prototype of the function func?

(2 Points)

- function double func(, ,);
- double func(double, int, string);
- double func(double x, int y, char name)
- function func(double x, int y, string name);

38. Determine the output of the following code fragment.

```
int x=10; int y=40;  
if (x>=10){  
    if(y<40) {  
        y++;  
    }  
    else {  
        y--;  
    }  
    cout << x << " " << y <  
(2 Points)
```

11 90

20 44

10 40

10 44

39. Which of the following correctly declares an array?

(2 Points)

int array{10};

array[10];

int array[10];

Float array[10];

40. The command "cin" in c++ is used for:

(2 Points)

Read a value from the terminal.

Print a value on the terminal.

Allocate a value into the memory.



None of above.

41. Determine the output of the following code fragment

```
int j=1;
while(j<10) {
    cout << j;
    j += j%3;
}
```

(2 Points)

543210

123455

321458

124578

42. What is the output of the program below?:

```
1. #include <iostream>
2. using namespace std;
3. int main() {
4.     int n = 3;
5.     if (n > 3);
6.     {
7.         cout << n + n << " ";
8.         ++n;
9.     }
10.    cout << n;
11.    return 0;
12. }
```

(2 Points)

4 6

6 4

9 1

4 2

43. Select the output of the following program:

```
#include <iostream>
using namespace std;
int main()
{
    int arr[2][2];

    for(int i=0; i<2; i++)
    {
        for(int j=0; j<2; j++)
        {
            arr[i][j]=i-j;
        }
    }

    cout<<arr[0][1];
    return 0;
}
```

(2 Points)

-1

0

1

Error!

44. What will you use if you are not intended to get a return value from a function?

(2 Points)

static

const

volatile

void

45. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
int main() {
    int score = 10;
    char grade;
    if (score == 100) {
        grade = 'A';
        cout << "Superb" ;
    }
    if (score <= 60) {
        grade = 'C';
        cout << "Pass " ;
    }
    if (score <= 75) {
        grade = 'B';
        cout << " Good " ;
    }
    else if (score <= 85) {
        grade = 'A';
        cout << "Very Good " ;
    }
    else
        grade = 'F';

    return 0;
}
```

(2 Points)

Pass

Good

Superb

Very Good

46. Out of the following, find those identifiers, which cannot be used for naming Variable, Constants or Functions in a C++ program:

(2 Points)

Column31

_Amount

NeW

Total*Tax

47. C++ was designed by Bjarne Stroustrup in 1999.

(2 Points)

True

False

48. Which of the following is the correct syntax of including the "iostream" header files in C++?

(2 Points)

#include ()

#include []

#include < >

#include " "

49. What is the output of the program below?

1. #include <iostream>
2. void main(){
3. int n = 4;
4. int k= n++;
5. cout << k << " " << ++n;}

(2 Points)

4 6

4 5

5 6

6 6

50. _____ is the language of a computer; a sequence of 0s and 1s.
(2 Points)

- Java language
- Assembly language
- C++ language
- Machine language

51. Select the output of the following program:

```
#include <iostream>
using namespace std;
int main()
{ int a=0;
while(++a)
    printf("I am at the first year!");
return 0;
}
```

(2 Points)

- No output
- I am at the first year!
- Infinite Loop
- Compile error!

52. The "get" function inputs(reads) next character (including whitespace).
(2 Points)

- True
- False

53. What is wrong with the following code fragment?

```
int main() { // line 1  
int x=4,y=3; // line 2  
const int i = 10; // line 3  
x = x + i; // line 4  
i = y*2; // line 5  
}
```

(2 Points)

- Variables are not declared before use
- There cannot be 3 variables in such a simple program
- There is an error in line 4
- There is an error in line 5

54. How many times is the body of the loop executed?

0. int i=1;
1. while(true) {
2. cout << i;
3. if(i==5) break;
4. i++;
5. }

(2 Points)

- 0 times
- 4 times
- 5 times
- infinite loop

55. What will be the output of the following C++ code?

```
#include <iostream>
using namespace std;
struct Pixel
{
    int C, R;
};
void Display(Pixel P)
{
    cout << "Col " << P.C << " Row " << P.R << endl;
}
int main()
{
    Pixel X = {40,50}, Y, Z;
    Z = X;
    X.C += 10;
    Y = Z;
    Y.C += 10;
    Y.R += 20;
    Z.C -= 15;
    Display(Y);

    return 0;
}
```

(2 Points)

Col 50 Row 70

Col 25 Row 50

Col 40 Row 50

Col 55 Row 60

56. What is the value stored in the integer variable intVar? int intVar = 70.6 / 2;

(2 Points)

33

34

35

35.3

36

57. What is the output of the following program:

1. #include <iostream>
2. using namespace std;
3. int main() {
4. int n = 7,m=2;
5. double y;
6. y=n/m;
7. cout<<y ;
8. return 0;
9. }

(2 Points)

2

3

3.5

7

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