Week 2 - Assignment 2

The due date for submitting this assignment has passed. Due on 2020-02-12, 23:59 IST. As per our records you have not submitted this assignment.

----------------------------------------------------------------------
1) For each of the following mention whether it is a valid identifier

☐ _x
☐ @x
☐ x@y
☐ x3
☐ 3x

No, the answer is incorrect.
Score: 0
Accepted Answers:
_x
x3

----------------------------------------------------------------------
2) To print a message "What is your name?" the proper command is

☐ cout >> "What is your name?";
☐ cout >> 'What is your name?';
☐ cout << "What is your name?";
☐ cout << 'What is your name?';

No, the answer is incorrect.
Score: 0
Accepted Answers:
cout << "What is your name?";

What will be printed because of the following code

```cpp
int x=5;
double xx=5;
cout << 1/2*x << endl; // OUTPUT1
cout << 1/2*xx << endl; // OUTPUT2
cout << x/2 << endl; // OUTPUT3
cout << xx/2 << endl; // OUTPUT4
```

3) What is OUTPUT1?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0

4) What is OUTPUT2?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0

5) What is OUTPUT3?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 2

6) What is OUTPUT4?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 2.5

7) What is printed because of the following code?

```cpp
int x = 2;
repeat(4){ x = x*x; }
cout << x << endl;
```

8) Based on the previous exercise, how many multiplication operations will be enough for calculating $3^8$, i.e. 3 to the power 8?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 3

9) What will be printed by the following code?

```cpp
int x=4;
repeat(4){ x = 2 * x + 3; }
cout << x << endl;
```

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 109

The code below, with the proper initialization of $x$, $y$, is supposed to print the sequence 5, 9, 17, 33, 65.

```cpp
int x = _, y = _;
repeat(5){
    cout << x << endl;
    x = 2*x + y;
}
```

10) What should $x$ be initialized to?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 5

11) What should $y$ be initialized to?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) -1
The next few questions are for the program given below. The program is expected to compute the value of the mathematical constant 'e'. You are to fill in the blanks as per the plan given in the comments.

```c++
main_program{
    int n; cin >> n;
    double i = BlankA, term = BlankB, result = BlankC;
    repeat(n){// On t-th entry, t=1..n
        i = t-1, term=1/t!
        result = 1/0!+1/1!+1/2! ...
    }
}
```

12. What is BlankA?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0

13. What is BlankB?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 1

14. What is BlankC?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 1

15. Which of the following will be correct in BlankD?

- i = i + 1;
- term = term / (i+1);
- result = result + term;
- result = result + term;
- i = i + 1;
- term = term / (i+1);
- i = i + 1;
result = result + term;
term = term / (i+1);

result = result + term;
i = i + 1;

No, the answer is incorrect.
Score: 0
Accepted Answers:
result = result + term;
i = i + 1;
term = term / (i+1);

Consider the code below for calculating the value of e. It solves the same problem as discussed in the lecture but it does it differently. In the ith iteration it calculates the value of $1/i!$ and adds it to the result.

```cpp
main_program{
    int n; cin >> n;

    double result = 0;
    int i=Blank-X;

    repeat(n){
        // calculate 1/i!
        int t=1;
        double term = 1;
        repeat(i){
            term = term/t;
            t = t + 1;
        }
        result = result + term;
        i = i + 1;
    }
    cout << result << endl;
}
```

16) What should i be initialized to (Blank-X)?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0

17) How many division operations does the above code do for n=10?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 45

18) How many division operations did the code discussed in the lecture do for n=10?
No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 10

19) Give the statement which would enable you to create a rectangle having corners (10,30), (50,30), (10,80), (50,80). The rectangle should be given the name "r1".

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) Rectangle r1(30,55,40,50);

20) Give the command that would rotate the above rectangle right by 5 degrees about its center.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) r1.right(5);
(Type: String) r1.rotate(5*3.14/180);

21) What is BLANK-P?
Use as few spaces as possible

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 100

22) What is BLANK-Q?
23) What is BLANK-R?

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 50