University of Jordan
King Abdulla II School for Information Technology
Computer Skills (C++) Second Semester 2014/2015

Student Name: Student Number: 0142679 Seat:
Instructor Name: Section Time: 8-9

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Q1) Consider the following C++ code: (2 marks)

```
int alpha;
	cin>>alpha;
	switch(alpha%6)
	{
	case 0:
		alpha--;break;
	case 1: case 2:
		alpha*=2;break;
	case 3:
		break;
	case 4:
		alpha-=5;
	case 5:
		alpha++;break;
	default:
		alpha/=3;
	}
	cout<<alpha;
```


What is the output if the input is

Input	Output
10	6
5	6

2

Q2) What is the output of the following program? (5 marks)

```
#include <iostream>
using namespace std;
int main()
{
	int x,a;
	cin>>x>>a;
	cout<<(x=15)<<endl;
	cout<<(x!=90)<<endl;
	cout<<(x<10)<<endl;
	cout<<(3*x<a)<<endl;
	cout<<(10*x == a-30)<<endl;
	reurn 0;
}
```

Input : 90 180

Output : 15
1
0
1
1

5

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Q3) Consider the following C++ code: (4 marks)

```
#include <iostream>
using namespace std;
int main()
{
      int num1,num2;
      int temp=0;
      cout<<"Enter 2 integers: ";
      cin>>num1>>num2;
      cout<<endl;
      while(((num1+num2)%5)!=0)
      {
            temp=num1+num2;
            num1=num2;
            num2=temp;
            cout<<temp<<" ";
      }
      cout<<endl;
      return 0;
}
```

What is the output if the input is

Input	Output
4 5	Enter 2 integers: 9 14 23 37

temp | num1 | num2
0 | 4 | 5
9 | 5 | 9
14 | 9 | 14
23 | 14 | 23
37 | 23

9 _ 14 _ 23 _ 37

(9 %5) != 0
4 != 0 (T)

23 %5 = 3 != 0
14 %5
4 != 0

37 %5 != 0
2 != 0

60 %5
0 != 0 F

(9 %5) != 0
(T) 4 != 0
(2) 14 %5 != 0
(T) 4 != 0
(3) 23 %5 != 0
(T) 3 != 0
(4) 37 %5 != 0
(T) 2 != 0
(5) 60 %5 != 0
F 0 != 0

temp | num1 | num2
0 | 4 + 5
9 | 5 + 9
14 | 9 + 14
23 | 14 + 23
37 | 23 + 37

9 _ 14 _ 23 _ 37 _

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Q4) In right triangle, the square of the length of one side is equal to the sum of the squares of the lengths of the other two sides. Write a program that prompts the user to the lengths of three sides of a triangle then outputs a message indicating whether the triangle is right or not. (9 marks)

$x^2 = y^2 + z^2$

Example: If the input is 3 4 5 (in any order) The output is **YES** since $5^2=3^2+4^2$ ($25 = 9 + 16$)

If the input is 3 4 6 (in any order) The output is **NO** since $6^2\neq3^2+4^2$ ($36 \neq 9+16$)

```
#include <iostream>
# include <string>
using namespace std;
int main ()
{int x,y,z;
cin>>x>>y>>z;
w=z*z;
g=x*x;
h=y*y;
if (w= g +h)
cout<<"YES";
else
cout<<"NO";

return 0; }
```

$z^2 = x^2 + y^2$

$(z*z) = (x*x) + (y*y)$

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8:9

Q5) Write a program to do the following (10 marks)

a. Let the user input 2 integers: one and two (one must be less than two).
b. Output all even numbers between one and two.
c. Output the sum of all odd numbers between one and two.

```
#include<iostream>
#include<string>
using namespace std;
int main()
{
int one,two;
int sum=0;
cin>>one>>two;
if(one<two)
{for(i=one;i<=two;i++)
{if(i%2==0)
cout<<i<<endl;
else
if(i%2!=0)
sum=sum+i;}
cout<<sum;}
return 0;
}
```

```
if(one<two)
{for(i=one;i<=tw
{if(i%2==0)
cout<<i<<endl;
else
{if(i%2!=0)
{sum=sum+i;
cout<<sum;
```

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