Programming I – Assignment 04

Branching I

#	Student ID	Student Name	Grade (10)
-			

Delivery Date	

١. يتم تسليم التمرين محلولا في خلال أسبوعا من تاريخ التمرين، و يتم حذف
درجتين من التمرين عن كل أسبوع تأخير
٢. يتم التسليم لمعيد المقرر مباشرة
٣. تتم أجابه التمرين في نفس ورق الأسئلة

Highlight the box that contains the correct answer

#	a	b	c	d	comment
1					
2					
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17					

#	Question	Answer

1	How many times the while loop will get executed if a short int is 2 byte wide?
	
	``c
	#include<stdio.h>
	int main()
	{
	   int j=1;
	   while(j <= 255)
	   {
	      printf("%c %d\n", j, j);
	      j++;
	   }
	   return 0;
	}
	``
		b

2	In mathematics and computer programming, which is the correct order of mathematical operators ? A. Addition, Subtraction, Multiplication, Division B. Division, Multiplication, Addition, Subtraction C. Multiplication, Addition, Division, Subtraction D. Addition, Division, Modulus, Subtraction	b

3	What will be the output of the program?
	
	``c
	#include<stdio.h>
	int main()
	{
	   int i=0;
	   for(; i<=5; i++);
	      printf("%d", i);
	   return 0;
	}
	``
	
	A. 0, 1, 2, 3, 4, 5 B. 5
	C. 1, 2, 3, 4 D. 6
		d

| 4 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    int a = 500, b = 100, c;
    if(!a >= 400)
        b = 300;
    c = 200;
    printf("b = %d c = %d\n", b, c);
    return 0;
}
```

A.   b = 300 c = 200   B.   b = 100 c = garbage
C.   b = 300 c = garbage   D.   b = 100 c = 200 | d |
| 5 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    unsigned int i = 65535; /* Assume 2 byte integer*/
    while(i++ != 0)
        printf("%d",++i);
    printf("\n");
    return 0;
}
```

A.   Infinite loop
B.   0 1 2 ... 65535
C.   0 1 2 ... 32767 - 32766 -32765 -1 0
D.   No output | a |

| 6 | What will be the output of the program, if a short int is 2 bytes wide?

#include<stdio.h>
int main()
{
    short int i = 0;
    for(i<=5 && i>=-1; ++i; i>0)
        printf("%u,", i);
    return 0;
}

A.   1 ... 65535   B.   Expression syntax error
C.   No output   D.   0, 1, 2, 3, 4, 5 | a |
| 7 | What will be the output of the program?

#include<stdio.h>
int main()
{
    char ch;
    if(ch = printf(""))
        printf("It matters\n");
    else
        printf("It doesn't matters\n");
    return 0;
}

A.   It matters   B.   It doesn't matters
C.   matters   D.   No output | b |

| 8 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    unsigned int i = 65536; /* Assume 2 byte integer*/
    while(i != 0)
        printf("%d",++i);
    printf("\n");
    return 0;
}
```

A.   Infinite loop
B.   0 1 2 ... 65535
C.   0 1 2 ... 32767 - 32766 -32765 -1 0
D.   No output | d |
| 9 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    float a = 0.7;
    if(0.7 > a)
        printf("Hi\n");
    else
        printf("Hello\n");
    return 0;
}
```

A.   Hi   B.   Hello
C.   Hi Hello   D.   None of above | a |

| 10 | What will be the output of the program?

#include<stdio.h>
int main()
{
   int a=0, b=1, c=3;
   *((a) ? &b : &a) = a ? b : c;
   printf("%d, %d, %d\n", a, b, c);
   return 0;
}

A.   0, 1, 3 B.   1, 2, 3
C.   3, 1, 3 D.   1, 3, 1 | c |
| 11 | What will be the output of the program?

#include<stdio.h>
int main()
{
   int k, num = 30;
   k = (num < 10) ? 100 : 200;
   printf("%d\n", num);
   return 0;
}

A.   200 B.   30
C.   100 D.   500 | b |

| 12 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    int a = 300, b, c;
    if(a >= 400)
        b = 300;
    c = 200;
    printf("%d, %d, %d\n", a, b, c);
    return 0;
}
```

A.   300, 300, 200   B.   Garbage, 300, 200
C.   300, Garbage, 200 D.   300, 300, Garbage | c |
| 13 | What will be the output of the program?

```c
#include<stdio.h>
int main()
{
    int x=1, y=1;
    for(; y; printf("%d %d\n", x, y))
    {
        y = x++ <= 5;
    }
    printf("\n");
    return 0;
}
```

A.   2 1
3 1
4 1
5 1
6 1
7 0   B.   2 1
3 1 | a |

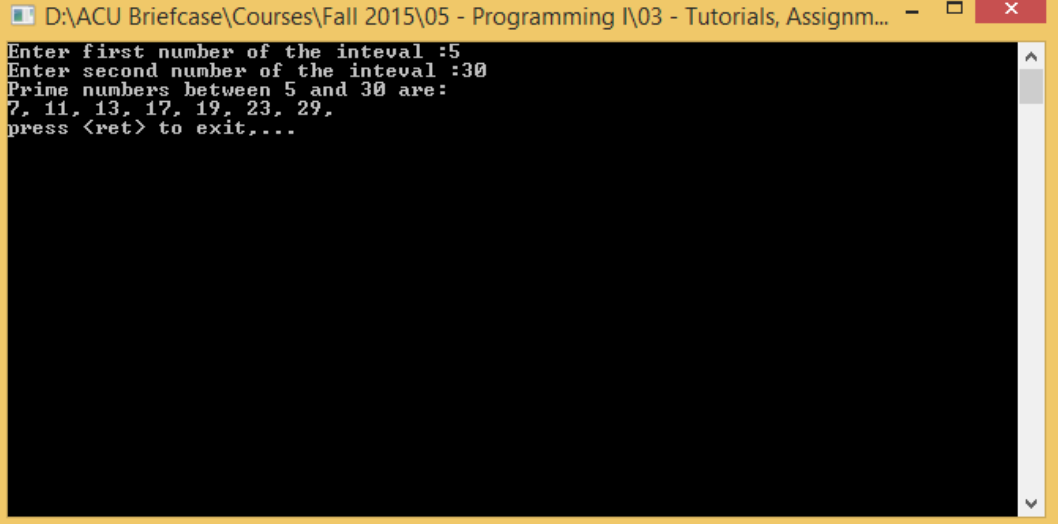4 1

5 1

6 1

C.   2 1

3 1

4 1

5 1   D.   2 2

3 3

4 4

5 5

| 14 | What will be the output of the program?

#include<stdio.h>
int main()
{
  int i = 5;
  while(i-- >= 0)
    printf("%d,", i);
  i = 5;
  printf("\n");
  while(i-- >= 0)
    printf("%i,", i);
  while(i-- >= 0)
    printf("%d,", i);
  return 0;
}

A.   4, 3, 2, 1, 0, -1
4, 3, 2, 1, 0, -1   B.   5, 4, 3, 2, 1, 0
5, 4, 3, 2, 1, 0
C.   Error D.   5, 4, 3, 2, 1, 0
5, 4, 3, 2, 1, 0
5, 4, 3, 2, 1, 0 | a |

15	What will be the output of the program?	C

	`#include<stdio.h>`
	`int main()`
	`{`
	`   int x = 10, y = 20;`
	`   if(!(!x) && x)`
	`      printf("x = %d\n", x);`
	`   else`
	`      printf("y = %d\n", y);`
	`   return 0;`
	`}`
	
	A.　　y =20　B.　　x = 0
	C.　　x = 10 D.　　x = 1	

16	What will be the output of the program?
	
	`#include<stdio.h>`
	`int main()`
	`{`
	`   char j=1;`
	`   while(j < 5)`
	`   {`
	`      printf("%d, ", j);`
	`      j = j+1;`
	`   }`
	`   printf("\n");`
	`   return 0;`
	`}`
	
	A.　　1 2 3 … 127
	B.　　1 2 3 … 255
	C.　　1 2 3 … 127 128 0 1 2 3 … infinite times
	D.　　1, 2, 3, 4
		D

17	What will be the output of the program?	a

	#include<stdio.h>
	int main()
	{
	   int x, y, z;
	   x=y=z=1;
	   z = ++x || ++y && ++z;
	   printf("x=%d, y=%d, z=%d\n", x, y, z);
	   return 0;
	}
	
	A. x=2, y=1, z=1 B. x=2, y=2, z=1
	C. x=2, y=2, z=2 D. x=1, y=2, z=1	

Programs

EX03	Write a console program that asks user of two intervals then prints all prime numbers between these two numbers
Output	D:\ACU Briefcase\Courses\Fall 2015\05 - Programming I\03 - Tutorials, Assignm... Enter first number of the inteval :5 Enter second number of the inteval :30 Prime numbers between 5 and 30 are: 7, 11, 13, 17, 19, 23, 29, press <ret> to exit,...
| Program | ```cpp
#include "stdafx.h"
#include <iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
    int n1, n2, i, j, flag;
  cout<<"Enter first number of the inteval :";
  cin>>n1;
   cout<<"Enter second number of the inteval :";
  cin>>n2;
 cout<<"Prime numbers between "<<n1<<" and "<<n2<<" are: "<<endl;
  for(i=n1+1; i<n2; ++i)
  {
    flag=0;
    for(j=2; j<=i/2; ++j)
    {
      if(i%j==0)
      {
        flag=1;
        break;
``` |

```
            }
        }
        if(flag==0)
            cout<<i<<", ";
    }
    cout<<endl<<"press <ret> to exit,...";
    fflush(stdin);
    cin.get();
    return 0;
}
```

EX04	Write a console program that asks user for two number, then operator (+.-,/,*), then execute that operation on these values, then display result.
| Output | ```
Enter first number :15
Enter operator(+,-,*,/) :/
Enter 2nd number :5

15 / 5 = 3

press <ret> to exit_
``` |
| Program | ```cpp
#include "stdafx.h"
#include <iostream>
#include <conio.h>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
    double num1,num2,result;
    char op;
        cout<<"Enter first number :";
        cin>>num1;
        fflush(stdin);
        cout<<"Enter operator(+,-,*,/) :";
        op=getche();
        cout<<endl<<"Enter 2nd number :";
        cin>>num2;
        if(op=='+')
        {
            result=num1+num2;
        }
        else if(op=='-')
        {
            result=num1-num2;
        }
``` |

```cpp
        else if(op=='*')
        {
                result=num1*num2;
        }
        else if(op=='/')
        {
                result=num1/num2;
        }
        else
        {
                result=0;
                cout<<"unknown operator."<<endl;
        }
        cout<<endl<<num1<<" "<<op<<" "<<num2<<" = "<<result<<endl;

    cout<<endl<<"press <ret> to exit";
    fflush(stdin);
    cin.get();
    return 0;
}
```