

UNIVERSITY COLLEGE DUBLIN

NATIONAL UNIVERSITY OF IRELAND, DUBLIN

An Colaiste Ollscoile Baile Atha Cliath

Ollscoil na hEireann, Baile Atha Cliath

TERM TEST 2009/2010

FIRST ENGINEERING

Computer Science for Engineers

COMP 10060

Prof. J. Murphy

Time allowed: 45 minutes

Answer all 10 questions. All questions carry equal marks.

This is a closed-book test. No calculators allowed.

Answer the questions on the exam paper supplied, you can use the reverse for rough work.

Loose Rough Work sheets are not to be distributed or used.

READ EACH QUESTION CAREFULLY.

STUDENT ID (*Required*): _____

Examination ID (*Optional*): _____

(If Examination ID left blank, your Student ID will be used to disseminate your result)

Question (1)

True or False (*no explanation required*): In C, the programmer can decide where the program will start execution, the default being `main()`

Question (2)

What is the difference between **machine code** and **object code**?

Question (3)

Suppose that **x**, **y**, **z** and **w** are all of type **int**. If the value of **x** is **4**, the value of **y** is **3**, and the value of **z** is **5**, what is the value of **w** in the expression?

$$w = x / y + y * z$$

Question (4)

What is the screen output of the following fragment of C code (*no explanation required*):

```
int i;
for (i=1;i<=15;i++){
    i*=2;
    printf("i is %d\n",i);
}
```

Question (5)

What is the screen output of the following fragment of C code (*no explanation required*):

```
double x=4.581;
printf("value is %.8f\n",x);
```

Question (6)

What character does the escape sequence `\t` represent in C?

Question (7)

What is the screen output of the following fragment of C code (*no explanation required*):

```
int i;
for (i=7;i>1;i--){
    switch(i)
    {
        case 2: printf("2");
        case 3: printf("3\n");
        break;
        default: printf("default\n");
    }
}
```

Question (8)

What is the screen output of the following fragment of C code (*no explanation required*):

```
int a=4, b=-1, c=2;
if ((a||b)&& c){
    printf("condition is true\n");
} else {
    printf("condition is false\n");
}
```

Question (9)

What is the screen output of the following fragment of C code (*no explanation required*):

```
double x=3.14159;
printf("value is %+.4f",x);
```

Question (10)

What is the screen output of the following fragment of C code (*no explanation required*):

```
int i=30;
while (i>0){
    i /= 3;
    printf("i is %d\n",i);
    break;
}
```
