


```

        printf("%d\n", x);
        return 0;
    }

void Change()
{
    int x;
    x = 1;
}

//Program 2
#include <stdio.h>
void Change(int a, int b);
int main ()
{
    int x;
    int y;
    x = 0;
    y = 0;
    Change(x, y);
    printf("%d, %d\n", x, y);
    return 0;
}

void Change(int a, int b)
{
    a = 1;    b = 1;
}

//Program 3
#include <stdio.h>
void Change(int *a, int *b);
int main ()
{
    int x;
    int y;
    x = 0;
    y = 0;
    Change(&x, &y);
    printf("%d %d\n", x, y);
    return 0;
}

void Change(int *a, int *b)
{
    *a = 1;
    *b = 1;
}

```

(20 marks)

Q4. Write the function definitions to perform the following tasks

- (a) A function named **grade** that takes one character parameter and returns true (1) if it is between 'a' and 'g' otherwise false (0).
- (b) A function named **getData** that reads a name, weight, height, and age from the keyboard.

(15 marks)

Q5. Write a program that will

- (a) Read the daily temperature readings of a year (365 readings) into an array.
- (b) Print the list with a “++” sign after each temperature above 100°F and “- -” sign after each temperature below 32°F.

Example:

Day	Temperature	Remark
1	30	--
2	25	--
3	35	
4	33	
5	31	--
.	.	
.	.	
161	98	
162	105	++
163	97	
164	106	++

(20 marks)

Q6. Consider the following program.

```
#include <stdio.h>

void doItFirst(int a[][15], int *s);

void doItSecond(int a[][15], int s, int *sumUp, int *sumLow);

void doItThird(int a, int b);

void guessThis();

int main(void)
{
    guessThis();
    return 0;
}
```

```

void doItFirst(int a[][15], int *n)
{
    int i, j;
    scanf("%d", n);
    for (i = 0; i < *n; i++)
        for (j = 0; j < *n; j++)
            scanf("%d", &a[i][j]);
}

void doItSecond(int a[][15], int m, int *sumUp, int *sumLo)
{
    int i, j, k;
    *sumUp = 0;
    *sumLo = 0;
    for (i = 0; i < m; i++)
    {
        k = i + 1;
        for (j = k; j < m; j++)
        {
            *sumUp = *sumUp + a[i][j];
            *sumLo = *sumLo + a[j][i];
        }
    }
}

void doItThird(int a, int b)
{
    printf("%d %d\n", a, b);
}

void guessThis()
{
    int s, g[15][15], x, y;
    doItFirst(g, &s);
    doItSecond(g, s, &x, &y);
    doItThird(x, y);
}

```

- (i) Describe in detail the purposes of each of the functions in the program.
- (ii) What output is produced when the data supplied to this program is as follows?

```

5
5 3 6 1 4
6 7 4 8 1
7 5 2 8 4
8 6 4 7 5
4 6 3 2 6

```

(20 marks)

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