British Informatics Olympiad

2004 British Informatics Olympiad
Script Cover Sheet

LIONHEAD STUDIOS

Please use this sheet, with reference to the marks scheme, to assist you with marking each student's script. This cover sheet should accompany all scripts submitted to the BIO organisers. As it summarises the solutions to many questions, **do not distribute or show this sheet to any contestant before 28 March 2004.**

Name of student: _____   Age: _____   Year in school: _____

Input:	13 20 9 2 9	13 20 7 16 3	13 20 7 16 12	13 20 7 18 3	13 20 8 11 8	13 20 16 3 4	13 20 14 6 9	14 1 1 1 1	14 1 14 14 14
1(a)	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
Output:	22 3 2001	1 1 2000	10 1 2000	10 2 2000	22 9 2000	29 2 2008	15 5 2006	21 12 2012	14 7 2026

	Inputs numbers?	Outputs a date?	Exits OK?
1(a)	[2]	[2]	[2]

1(b) *Two correct dates:*
[1] 13 20 7 17 14
[1] 13 20 8 16 9

1(c)
[1] 2,880,000
[2] Thursday

Totals for Q1

1(a)	24	[24]
1(b)	2	[2]
1(c)	3	[3]

Test 1:

Input: 6 n
172635

2(a)	[2]	[2]	[1]

```
------- -------
------- -------
------- -------   Player
------- -------   1 wins
------- -------
***-ooo ****ooo
```

Test 2:

Input: 8 n n r
33344442

2(a)	[2]	[2]	[2]	[2]	[1]

```
-------  -------  -------  *------
-------  -------  -------  o------
---*---  ---*---  ---*---  **o*---   Player
--*o---  --*o---  --*o---  oo*o---   1 wins
--o*---  --o*---  -oo*---  *oo*---
-o*o---  *o*o---  *o*o---  *o*o*--
```

2(b)

```
oo**oo-
**oo**-
oo**oo-   [2]
**oo**-
oo*oooo
***o***
```

See mark scheme for 2(c)

Test 3:

Input: 5 n r
34343

2(a)	[2]	[2]	[2]	[1]

```
-------  -------  oo*o*o-   Player
-------  -------  ***oo*-   2 wins
-------  --o----  ooo**o-
--*----  --*----  ***oo*-
--*o---  --*o---  oo*oooo
--*o---  --*o---  ***o***
```

Test 4:

Input: 1 r
7

2(a)	[2]	[2]	[1]

```
-------  **oo*oo   Draw
-------  oo**o**
-------  **oo*oo
-------  oo**o**
-------  **o***o
------*  ooo*oo*
```

Q2 Totals

2(d) 60691 [3] ✗

2(a)	26	[26]
2(b)	2	[2]
2(c)	5	[6]
2(d)	0	[3]

Input:	3(a)	Output:	Input:	3(a)	Output:	Input:	3(a)	Output:	Input:	3(a)	Output:
dog	[1]	4	eeeee	[2]	1	cyclops	[2]	12	typewriter	[3]	91674
e	[2]	1	ss	[2]	3	wireless	[2]	8092			
et	[2]	1	oo	[2]	1	olympiad	[2]	1255			
ea	[2]	2	morse	[2]	99	invisible	[2]	27876			

See mark scheme for alternative solutions for 3(a) and 3(c)

3(b) [2] 13 and [3] 170   **3(c)** [3] 124

Totals for Q3

3(a)	26	[26]
3(b)	5	[5]
3(c)	0	[3]

Deduct [2] marks for every part (a) program name that is not clearly marked on the script, or where the student has failed to compile the program for languages that require compiling.

Total question 1	Total question 2	Total question 3
29 (29)	34 (37)	31 (34)

Please use the back of this sheet for any further comments

Marked by

Total mark for BIO 2004   94 (100)

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