

Module title	COM426 Problem Solving with Programming
Date of submission	Friday 18/01/2019, 23:59
Issue date	05/12/2018
Assignment title	Pontoon / '21' / Blackjack card game
Weighting	50%
Module leader	Jessica Muirhead
Submission instructions	<p>A word document is to be submitted, which will include the JSP for data structures used in the program, JSP(s) for the program design, screen shots demonstrating the program and also source code, the source code must be compiled with Visual Studio 2015 in a Win32 console application.</p> <p>All of these elements will be combined in a word document, with the following naming convention for the filename. Student ID, Task 5 and full name doc or docx. e.g. S1201234-Task 5-Jason Matthews.doc S1201234-Task 5-Jason Matthews.docx</p>
Learning outcomes tested in this assignment	<ol style="list-style-type: none"> 1. Interpret problem specifications, and translate them into logical, designed solutions. 2. Use program designs to develop working computer programs. 3. Demonstrate an understanding of object-orientated programming. 4. Use an Interactive Development Environment (IDE) to build graphical user interfaces. 5. Understand the key stages of software development and their relationship to the discipline of Software Engineering.
Task details and instructions	<p>The British version of the card game 21 is called pontoon; the American version of this card game is called blackjack or 21. With each round the player is dealt two cards and the computer player is also dealt two cards. The player can then either stick (no more cards are dealt) or twist; which means deal another card, this process is repeated until bust (lose go over 21) or stick.</p>

	<p>Which hand is the best (winning hand):</p> <ul style="list-style-type: none"> • The best hand of all is a Pontoon, which is 21 points in two cards; this can only consist of ace plus a picture card or ten. • Next best after a Pontoon is a Five Card Trick, which is a hand of five cards totalling 21 or less. • A hand of three or four cards worth 21 points beats everything else except a Pontoon or Five Card Trick. • Hands with 20 or fewer points and fewer than five cards rank in order of their point value – the nearer to 21 the better. • Hands with more than 21 points are bust and are worthless. <p>If the computer and a player have equal valued hands, then the computer wins.</p> <p>JSP diagrams are required for the data structures used as well as JSP diagrams for the program logic. An appropriate data structure for a card must be developed and an appropriate data structure to represent a pack of cards (which contains 52 cards) must also be developed, a struct is to be used for this implementation.</p> <p>The values of the cards are as follows Ace can either have the value 1 or 11 (this is chosen by the player), the cards 2, 3, 4, 5, 6, 7, 8, 9, 10 have the same value as the card, for example 2 of hearts has a value 2, 10 of clubs has the value 10. The picture cards Jack, Queen and King all have the value 10.</p> <p>The menu system for this program must allow the user to do the following actions:</p> <ul style="list-style-type: none"> • New Game • Help • About • Exit Game <p>The player should be able to play until they choose to exit the current game; this should return the player back to the main menu.</p> <p>The game logic for the computer player could be expanded upon, to potentially attain a higher mark. You will not be able to score above 70% without providing additional functionality.</p>
Guidance on size of submission	<p>Your assignment should include all of the above files in a single zip file (.zip). Moodle will accept submissions up to 500MB, though please consider whether all your included files</p>

	are appropriate to the submission.
Penalties for late submissions	Work submitted up to a week late without a valid reason can only gain a maximum of 40%. Any extensions to coursework must be arranged with your tutor and will only be granted for a valid reason with supporting evidence.
Marking criteria:	<p><u>70%+:</u> Complete submission that satisfies all the assessment criteria, and in addition provides additional functionality over and above the minimum requirements.</p> <p><u>60-69%:</u> Complete submission that satisfies all the assessment criteria.</p> <p><u>50-59%:</u> Complete submission in which some omissions may be tolerated if the student indicates their awareness of them.</p> <p><u>40-49%:</u> Complete submission, in which there may be errors, misunderstandings or uncertainties and, in fact, the student may not be aware of some of these. However the underlying principles will be sound or at least an attempt made to justify them.</p> <p><u>0-39%:</u> Incomplete submission, with errors. The work does not contain an awareness of computing principles, and is not presented to the required standards. Resources are not referenced correctly.</p>
Feedback policy	<p>Feedback will be given by video screencast through Moodle by 08/02/2019.</p> <p>If you have any questions about this feedback, please contact the module leader using the details below.</p>
Support arrangements	<p>Support is available through a number of channels:</p> <p><u>Teaching sessions</u> The module leader will be available to ask questions at the end of each session.</p>

	<p><u>Email</u></p> <p>Outside of these times, the module leader is available by email at jessica.muirhead@glyndwr.ac.uk. Responses may take 1-2 working days depending on the complexity of the questions.</p>
Marking and moderation policy	<p>This assignment will be marked by Jessica Muirhead, and validated by Jason Matthews.</p>